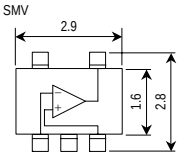
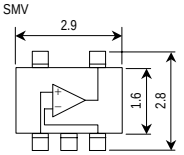
General-Purpose Linear ICs

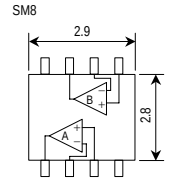
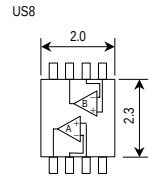
Operational Amplifier ICs & Comparator ICs

Operational Amplifier ICs & Comparator ICs (Bipolar, Single-Circuit Type)

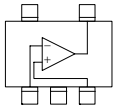
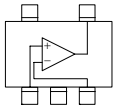
Function	Part Number	Package	Marking	Features	Operating Voltage	Pin Configuration (top view) (Unit: mm)
Bipolar comparator	TA75S393F	SMV	TA	Single/dual power supply, open-collector output	2 to 36 V or ±1 to ±18 V	
Bipolar op amp	TA75S01F	SMV	SA	Single/dual power supply, unity gain available	3 to 12 V or ±1.5 to ±6 V	
	TA75S558F	SMV	SB	Dual power supply	±4 to ±18 V	

Note: Please note that the pin configurations of the input pins of the single operational amps and comparator differ. The US8 and SM8 types have the same pin configuration.

(Bipolar, Dual-Circuit Type)

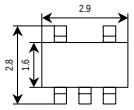
Function	Part Number	Package	Marking	Features	Operating Voltage	Pin Configuration (top view) (Unit: mm)
Bipolar comparator	TA75W393FU	SM8	5W393	Single/dual power supply, open-collector output	2 to 36 V or ±1 to ±18 V	
Bipolar op amp	TA75W01FU	SM8	5W01	Single/dual power supply, unity gain available	3 to 12 V or ±1.5 to ±6 V	
	TA75W558FU	SM8	5W558	Dual power supply	±4 to ±18 V	

(CMOS, Single-Circuit Type)

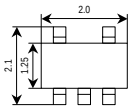
Function	Part Number	Package	Marking	Features	Operating Voltage	Pin Configuration
CMOS comparator	TC75S56F	SMV	TC	Single/dual power supply, push-pull output, ultra-low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75S56FU	USV				
	TC75S56FE	ESV				
	TC75S57F	SMV	TD	Single/dual power supply, push-pull output, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75S57FU	USV				
	TC75S57FE	ESV				
	TC75S58F	SMV	TE	Single/dual power supply, open-drain output, ultra-low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75S58FU	USV				
	TC75S58FE	ESV				
	TC75S59F	SMV	TF	Single/dual power supply, open-drain output, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75S59FU	USV				
	TC75S59FE	ESV				
CMOS op amp	TC75S51F	SMV	SC	Single/dual power supply, low-voltage operation	1.5 to 7 V or ±0.75 to ±3.5 V	
	TC75S51FU	USV				
	TC75S51FE	ESV				
	TC75S54F	SMV	SE	Single/dual power supply, low-voltage operation, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75S54FU	USV				
	TC75S54FE	ESV				
	TC75S55F	SMV	SF	Single/dual power supply, low-voltage operation, ultra-low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75S55FU	USV				
	TC75S55FE	ESV				
	* TC75S60F	SMV	SH	Single/dual power supply, high slew rate, high fr, low-voltage operation, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	* TC75S60FU	USV				

Note: Please note that the pin configurations of the input pins of the single operational amps and comparator differ. The US8 and SM8 types have the same pin configuration. *: New product

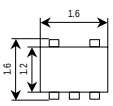
SMV



USV

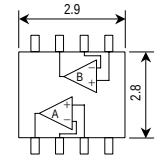
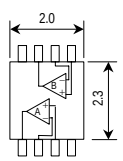


ESV



(mm)

(CMOS, Dual-Circuit Type)

Function	Part Number	Package	Marking	Features	Operating Voltage	Pin Configuration (top view) (Unit: mm)
CMOS comparator	TC75W56FU	SM8	5W56	Single/dual power supply, push-pull output, ultra-low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	SM8 
	TC75W56FK	US8				
	TC75W57FU	SM8	5W57	Single/dual power supply, push-pull output, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75W57FK	US8				
	TC75W58FU	SM8	5W58	Single/dual power supply, open-drain output, ultra-low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75W58FK	US8				
	TC75W59FU	SM8	5W59	Single/dual power supply, open-drain output, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75W59FK	US8				
CMOS op amp	TC75W51FU	SM8	5W51	Single/dual power supply, low-voltage operation	1.5 to 7 V or ±0.75 to ±3.5 V	US8 
	TC75W51FK	US8				
	TC75W54FU	SM8	5W54	Single/dual power supply, low-voltage operation, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75W54FK	US8				
	TC75W55FU	SM8	5W55	Single/dual power supply, low-voltage operation, ultra-low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	TC75W55FK	US8				
	* TC75W60FU	SM8	5W60	Single/dual power supply, high slew rate, high fr, low-voltage operation, low current consumption	1.8 to 7 V or ±0.9 to ±3.5 V	
	* TC75W60FK	US8				

*: New product

Power Op-Amp

Circuit	Part Number	Package	Maximum Ratings		Remarks
			Vcc (V)	Io (A)	
Dual	TA7256P	HSIP10	±18	0.5	Internally phase-corrected type
	TA7272P	HSIP10	±18	1.2	Internally phase-corrected type

Calculation Amplifier IC Series (Op-Amp Series)

Classification	Use/Function	Circuit	Part Number	Package	V_{IO} (mV) Max	I_{IO} (nA) Max	I_I (nA) Max	f_T (MHz) Typ.	SR (V/μs) Typ.	I_{CC} (mA) Max	Recommended V_{CC} (V)	Remarks	Equivalent
Single power supply op-amps	High-speed, low-power	Dual	TA75358F	SOP8	7	50	250	1.5	0.8	1.2	3 to 36		—
			TA75358P	DIP8									
	General-purpose, low-power	Dual	TA75358CF	SOP8	7	50	250	0.6	0.3	1.2	3 to 36		358 2904
			TA75358CP	DIP8									
		Quad	TA75902F	SOP14	7	30	150	—	—	1.2	3 to 36		2902
			TA75902P	DIP14									
Dual power supply op-amps	General-purpose	Dual	TA75458F	SOP8	5	200	500	1.1	0.8	6	±15		1458
			TA75458P	DIP8									

(Comparator ICs)

Part Number	Circuit	Package	Power Supply (V)	Input Offset Current Max	Input Offset Voltage Max	Input Bias Current Max	Response Speed Typ.	Remarks	Equivalent
TA7522S	Dual	SIP9	+18	0.3 μA	10 mV	−2 μA	—	Open-collector output	—
TA7522F	Dual	SOP8	+18	0.3 μA	10 mV	−2 μA	—	Open-collector output	—
TA75339P	Quad	DIP14	±18 or +36	50 nA	5 mV	250 nA	tr = 1.3 μs		LM339N LM2901N
TA75339AP				70 nA	10 mV	250 nA	tr = 1.0 μs	High output current: 100 mA Typ.	—
TA75339F		SOP14		50 nA	5 mV	250 nA	tr = 1.3 μs		—
TA75393P	Dual	DIP8	±18 or +36	50 nA	5 mV	250 nA	tr = 1.3 μs		LM393N LM2903N
TA75393AP				50 nA	7 mV	250 nA	tr = 1.3 μs	High output current: 100 mA Typ.	—
TA75393F		SOP8		50 nA	5 mV	250 nA	tr = 1.3 μs		—
TA8504F	Single	SOP8	−5	10 μA	±10 mV	40 μA	tr = 1.0 ns tf = 0.7 ns	ECL output	—
TA8517F	Dual	SOP16	+5	3 μA	±10 mV	6 μA	tr = 4.0 ns tf = 2.0 ns	TTL output Comes with offset adjustment pin.	—

Intelligent Power Devices (IPD)

60 V Series

Part Number	Use/Function	Outline	Operating Supply Voltage (V)	Operating Temperature Topr (°C)	Junction (Channel) Temperature Tj (°C)	Power Dissipation PD (W)	Protective Functions			Diagnostic Functions				Input/ Output	Package
							Overcurrent Is (A)	Over Temperature Ts (°C)	Overvoltage Vs (V)	Short load	Open load	Over Temperature	Overvoltage		
TPD1008SA	High-side switch	VDSS 60 V Io 4 A RDS(ON) = 0.2 Ω Max	5 to 18	−40 to 110			6 Typ.	160 Typ.	—	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	TO-220(NIS) 5PIN
TPD1009S	High-side switch	VDSS 60 V Io 8 A RDS(ON) = 0.06 Ω Max	5 to 18			30	12 Typ.	160 Typ.	—	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	TO-220(NIS) 5PIN
TPD1011S	High-side switch	VDSS 60 V Io 15 A RDS(ON) = 0.06 Ω Max	5 to 18	−40 to 85			40 Typ.	160 Typ.	—	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	TO-220(IS) 5PIN
TPD1018F	High-side switch	VDSS 60 V Io 0.5 A RDS(ON) = 0.8 Ω Max	5 to 25	−40 to 125		0.3	1.5 Typ.	160 Typ.	30 Typ.	○ DIAG L	—	○ DIAG L	○ DIAG L	H/H	SSOP-10PIN
TPD1024S	Low-side switch	VDS(DC) 40 V Io 1.5 A RDS(ON) = 0.5 Ω Max	up to 18	−40 to 85		1	3.5 Typ.	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	PW-MOLD 3PIN
TPD1024AS	Low-side switch	VDS(DC) 40 V Io 1.5 A RDS(ON) = 0.5 Ω Max	up to 18	−40 to 85		1.2	3.5 Typ.	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	TPS 3PIN
TPD1030F	2-ch low-side switch	VDS(DC) 40 V Io 1 A RDS(ON) = 0.6 Ω Max	up to 40	−40 to 110		2.0 (t = 10 s) (mounted on board)	1 Min	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	SOP-8PIN
TPD1031AF	Low-side switch	VDS(DC) 50 V Io 8 A RDS(ON) = 0.065 Ω Max	up to 18			50 (Tc=25°C)	8 Min	160 Typ.	Active clamp 50 Min	—	—	—	—	H/L	TO-220SM 3PIN
TPD1032F	2-ch low-side switch	VDS(DC) 20 V Io 3 A RDS(ON) = 0.4 Ω Max	up to 20			2.0 (t = 10 s) (mounted on board)	3 Min	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	SOP-8PIN
TPD1033F	High-side switch	VDSS 60 V Io 4 A RDS(ON) = 0.22 Ω Max	5 to 18		150	2.4 (t = 10 s) (mounted on board)	6 Typ.	160 Typ.	—	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	SOP-8PIN
TPD1034F	High-side switch	VDSS 60 V Io 8 A RDS(ON) = 0.08 Ω Max					12 Typ.	160 Typ.	—	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	SOP-8PIN
TPD1036F	2-ch low-side switch	VDS(DC) 30 V Io 1.5 A RDS(ON) = 0.5 Ω Max	up to 30			2.0 (t = 10 s) (mounted on board)	1.5 Min	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	SOP-8PIN
TPD1037BS	Low-side switch	VDS(DC) 40 V Io 1.5 A RDS(ON) = 0.25 Ω Max	up to 40	−40 to 85		0.9	In-rush 10 Typ. Shorted load 3 Typ.	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	TO-92MOD 3PIN
TPD1038F	High-side switch	VDSS 60 V Io 3 A RDS(ON) = 0.12 Ω Max	6 to 18	−40 to 110		1.1 (mounted on board)	3 Min	150 Min	Active clamp 50 Min	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	SOP-8PIN
TPD1039F	Low-side switch	VDS(DC) 45 V Io 1.5 A RDS(ON) = 0.25 Ω Max	up to 45	−40 to 85		1.1 (mounted on board)	5 Typ.	125 Min	Active clamp 45 Min	—	—	—	—	H/L	SOP-8PIN
TPD1039S	Low-side switch	VDS(DC) 45 V Io 1.5 A RDS(ON) = 0.25 Ω Max	up to 45	−40 to 85		0.9	5 Typ.	125 Min	Active clamp 45 Min	—	—	—	—	H/L	TO-92MOD 3PIN
TPD1042F	High-side switch	VDSS 60 V Io 7 A RDS(ON) = 0.18 Ω Max	6 to 18	−40 to 115		1.1 (mounted on board)	7 Min	150 Min	—	○ DIAG L	○ DIAG H	○ DIAG L	—	H/H	SOP-8PIN
TPD1044F	Low-side switch	VDS(DC) 41 V Io 1 A RDS(ON) = 0.6 Ω Max	up to 41	−40 to 125		0.9 (mounted on board)	1 Min	160 Typ.	Active clamp 41 Min	—	—	—	—	H/L	PS-8
** TPD1045F	Low-side switch	VDS(DC) 50 V Io 5 A RDS(ON) = 0.1 Ω Max	up to 18	−40 to 125		1.1 (mounted on board)	5 Min	170 Typ.	Active clamp 50 Min	—	—	—	—	H/L	SOP-8PIN

**: Under development

Part Number	Use/Function	Outline	Operating Supply Voltage (V)	Operating Temperature Topr (°C)	Junction (Channel) Temperature Tj (°C)	Power Dissipation P_D (W)	Protective Functions			Diagnostic Functions				Input/ Output	Package
							Overcurrent Is (A)	Over Temperature Ts (°C)	Overvoltage Vs (V)	Short load	Open load	Over Temperature	Overvoltage		
✧ TPD2004F	Air bag 2-ch squib driver (high-side SS)	V_{BB} 30 V $R_{DS(ON)}$ = 1 Ω Max	V_{BB}=4 to 25 V_{CC}=4.75 to 5.25	−40 to 85	150	0.8	—	—	—	1) Squib-short, short-to-battery, short-to-ground and open-circuit detection 2) When an abnormal condition is diagnosed, the safing sensor is turned on. 3) Diagnosis performed on squib driver's internal MOSFET				When LSD = L and HSD = H, squib ignites.	SSOP-24PIN
✧ TPD2005F	8-ch high-side switch	V_{DD} 45 V Io 1 A $R_{DS(ON)}$ = 1.2 Ω Max	8 to 40			0.8	1.0 Min	160 Typ.	—	—	—	—	—	H/H	SSOP-24PIN
✧ TPD2007F	8-ch low-side switch	$V_{DS(DC)}$ 40 V Io 1 A $R_{DS(ON)}$ = 1.4 Ω Max	up to 40			0.8	1.0 Min	160 Typ.	Active clamp 40 Min	—	—	—	—	H/L	SSOP-24PIN
✧ TPD7000AF	4-ch low-side Power MOSFET driver	V_{DH} 25 V Io 20 mA Max	V_{DH}=8 to 18 V_{DL}=4.5 to 5.5	−40 to 110		0.5	V_{DS} monitor 1.0 V Typ.	—	Active clamp 35 V Typ.	○ DIAG L	○ DIAG H	—	—	H/H (ENB="H")	SSOP-24PIN
✧ TPD7100F	2-ch high-side Power MOSFET driver (with built-in charge pump)	V_{DD} 30 V Source current 0.1 A Typ. Sink current 0.1 A Typ.	8 to 18			0.8	Adjustable	—	○ (Undervoltage detected at 4.5 V Max)	Overcurrent	—	—	—	H/H	SSOP-24PIN
✧ TPD7201F	3-phase full-bridge Power MOSFET driver (with built-in charge pump)	V_{DD} 30 V Source current 1 A Max Sink current 1 A Max	7 to 18	−40 to 125		0.8	—	—	○ 22 V Typ. (Undervoltage detected at 6.0 V Typ.)	—	—	—	○ FAULT H (and undervoltage)	H/H	SSOP-24PIN
✧ TPD7202F	H bridge Power MOSFET driver (with built-in charge pump	V_{DD} 30 V Source current 1 A Max Sink current 1 A Max	7 to 18			0.8	—	—	○ 22 V Typ. (Undervoltage detected at 6.0 V Typ.)	—	—	—	○ FAULT H (and undervoltage)	H/H	SSOP-24PIN
✧ TPD7203F	3-phase full-bridge Power MOSFET driver (with built-in charge pump)	V_{DD} 30 V Source current 1 A Max Sink current 1 A Max	7 to 18			0.8	—	—	○ (Undervoltage detected at 6.0 V Typ.)	—	—	—	○ FAULT H (only under voltage)	H/H	SSOP-24PIN

✧: Dry-packed product

250 V/500 V Series

Part Number	Features	Rating	Output Type	Functions	Protective Functions			Package
					Overcurrent	Over temperature	Undervoltage	
TPD4101K	High-voltage PWM DC brushless motor driver	250 V/±1 A	3-phase full-bridge	Hall IC input, bootstrap circuit, PWM, 3-phase decoder	○	○	○	HZIP23
TPD4102K	High-voltage PWM DC brushless motor driver	500 V/±1 A	3-phase full-bridge	Hall IC input, bootstrap circuit, PWM, 3-phase decoder	○	○	○	HZIP23
TPD4103K	High-voltage PWM DC brushless motor driver	500 V/±1 A	3-phase full-bridge	6-input, low-side driver, high-side driver	○	○	○	HZIP23
TPD4103AK	High-voltage PWM DC brushless motor driver	500 V/±1 A	3-phase full-bridge	6-input, low-side driver, high-side driver	—	○	○	HZIP23
TPD4104K	High-voltage PWM DC brushless motor driver	500 V/±2 A	3-phase full-bridge	6-input, low-side driver, high-side driver	○	○	○	HZIP23
TPD4104AK	High-voltage PWM DC brushless motor driver	500 V/±2 A	3-phase full-bridge	6-input, low-side driver, high-side driver	—	○	○	HZIP23
** TPD4105K	High-voltage PWM DC brushless motor driver	500 V/±3 A	3-phase full-bridge	6-input, low-side driver, high-side driver	○	○	○	HZIP23
** TPD4105AK	High-voltage PWM DC brushless motor driver	500 V/±3 A	3-phase full-bridge	6-input, low-side driver, high-side driver	—	○	○	HZIP23
** TPD4111K	High-voltage PWM DC brushless motor driver	250 V/±1 A	3-phase full-bridge	Hall amplifier input, bootstrap circuit, PWM, 3-phase decoder	○	○	○	HZIP23
** TPD4112K	High-voltage PWM DC brushless motor driver	500 V/±1 A	3-phase full-bridge	Hall amplifier input, bootstrap circuit, PWM, 3-phase decoder	○	○	○	HZIP23

**: Under development

Interface Drivers

Transistor Arrays (Transistor Array/Interface Driver Series)

Part Number	Device Type	No. of Circuits	Output Clamp Diode	Output Breakdown Voltage (V)	Output Current (mA)	Input Resistor (Ω)	Recommended System Supply Voltage (V)	Package
TD62001AP/AF	Darlington driver	7	○	50	500	NA	Any	DIP16/SOP16
TD62002AP/AF	Darlington driver	7	○	50	500	10.5 k + 7 VZ.D.	14 to 15	DIP16/SOP16
TD62003AP/AF	Darlington driver	7	○	50	500	2.7 k	5	DIP16/SOP16
TD62004AP/AF	Darlington driver	7	○	50	500	10.5 k	6 to 15	DIP16/SOP16
TD62006P/F	Darlington driver	6	○	22	150	20 k	6 to 20	DIP14/SOP14
TD62008AP/AF	Darlington driver	7	○	50	400	20 k	6 to 20	DIP16/SOP16
TD62064AP/AF/BP-1/BF	High-current darlington driver	4	○	50/50/80/80	1500	230	5	DIP16/ HSOP16
TD62074AP/AF	Isolated-type high-current darlington driver	4		50	1500	230	5	DIP16/ HSOP16
TD62081AP/AF	Darlington driver	8	○	50	500	NA	Any	DIP18/SOP18
TD62082AP/AF	Darlington driver	8	○	50	500	10.5 k + 7 VZ.D.	14 to 25	DIP18/SOP18
TD62083AP/AF/AFN	Darlington driver	8	○	50	500	2.7 k	5	DIP18/SOP18 SSOP18
TD62084AP/AF/AFN	Darlington driver	8	○	50	500	10.5 k	6 to 15	DIP18/SOP18 SSOP18
TD62101P/F	Darlington driver	7		25	500	NA	Any	DIP16/SOP16
TD62103P/F	Darlington driver	7		25	500	2.7 k	5	DIP16/SOP16
TD62104P/F	Darlington driver	7		25	500	10.5 k	6 to 15	DIP16/SOP16
TD62105P/F	Darlington driver	7		25	500	20 k	12 to 25	DIP16/SOP16
TD62107P/F	Darlington driver (with Enable pin)	4	○	45/35	750	LS-, TTL-compatible	5	DIP16/ HSOP16
TD62164AP/BP/AF/BF	High-current, low-saturation driver	4	○	50/80/50/80	700	2 k	5 to 15	DIP16/ HSOP16
TD62304AP/AF/AFN	Low-input-active darlington driver	7		50	500	14 k	5	DIP16/SOP16 SSOP16
TD62305AP/AF/AFN	Low-input-active darlington driver	7		50	500	14 k + D.	5	DIP16/SOP16 SSOP16
TD62307P/F	Low-saturation driver	7	○	20	150	20 k	5 to 18	DIP16/SOP16
TD62308AP/AF/BP-1/BF	Low-input-active darlington driver	4	○	50/50/80/80	1500	4 k	5	DIP16/ HSOP16
TD62309P/F	Low-saturation driver	6	○	20	700	2 k	5	DIP16/ HSOP16
TD62318AP/BP/AF/BF	Low-input-active, low-saturation driver	4	○	50/80/50/80	700	4 k	5	DIP16/ HSOP16
TD62381P/F/FN	Low-saturation driver	8		15	500	2.7 k	5 to 18	DIP18/SOP18 SSOP18
TD62382AP/AF/AFN	Low-input-active, low-saturation driver	8		50	50	14 k	5 to 18	DIP18/SOP18 SSOP18
TD62383P	Low-input-active, low-saturation driver	8	○	10	500	14 k + D.	5 to 18	DIP20
TD62384AP/AF	Low-input-active darlington driver	8		50	500	14 k	5 to 18	DIP18/SOP18
TD62385AP/AF	Low-input-active darlington driver	8		50	500	14 k + D.	5 to 18	DIP18/SOP18
TD62386AP/AF	Low-input-active darlington driver	8	○	50	500	14 k	5 to 7	DIP20/SOP20

Transistor Arrays (Transistor Array/Interface Driver Series) (continued)

Part Number	Device Type	No. of Circuits	Output Clamp Diode	Output Breakdown Voltage (V)	Output Current (mA)	Input Resistor (Ω)	Recommended System Supply Voltage (V)	Package
TD62387AP/AF/AFN	Low-input-active darlington driver	8	○	50	500	14 k + D.	5 to 7	DIP20/SOP20 SSOP20
TD62388AP/AF/AFN	Low-input-active darlington driver	8	○	50	500	14 k + D.	5 to 7	DIP20/SOP20 SSOP20
TD62501P/F	Single-transistor array (common-emitter)	7		35	200	NA	Any	DIP16/SOP16
TD62502P/F/FN	Single-transistor array (common-emitter)	7		35	200	10.5 k + 7 VZ.D.	14 to 25	DIP16/SOP16 SSOP16
TD62503P/F/FN	Single-transistor array (common-emitter)	7		35	200	2.7 k	5	DIP16/SOP16 SSOP16
TD62504P/F/FN	Single-transistor array (common-emitter)	7		35	200	10.5 k	6 to 15	DIP16/SOP16 SSOP16
TD62505P/F	Single-transistor array (common-collector)	7		35	−200	NA	Any	DIP16/SOP16
TD62506P/F	Single-transistor array (common-collector)	7		35	−200	2.7 k	5	DIP16/SOP16
TD62507P/F	Isolated-type single-transistor array	5		35	−200	NA	Any	DIP16/SOP16
TD62551S	Single-transistor array (common-emitter)	4		25	150	NA	Any	SIP9
TD62553S	Single-transistor array (common-emitter)	4		25	150	2.7 k	5	SIP9
TD62554S	Single-transistor array (common-emitter)	4		25	150	10.5 k	6 to 15	SIP9
TD62555S	Single-transistor array (common-emitter)	4		25	150	20 k	12 to 25	SIP9
TD62583AP/AF	Single-transistor array (common-emitter)	8		50	50	2.7 k	5	DIP18/SOP18
TD62591AP	Single-transistor array (common-emitter)	8		50	200	NA	Any	DIP18
TD62592AP	Single-transistor array (common-emitter)	8		50	200	10.5 k + 7 VZ.D.	14 to 25	DIP18
TD62593AP/AFN	Single-transistor array (common-emitter)	8		50	200	2.7 k	5	DIP18/SSOP18
TD62594AP/AFN	Single-transistor array (common-emitter)	8		50	200	10.5 k	6 to 15	DIP18/SSOP18
TD62595AP/AF	Single-transistor array (common-emitter)	8	○	50	200	NA	Any	DIP18/SOP18
TD62596AP/AF	Single-transistor array (common-emitter)	8	○	50	200	10.5 k + 7 VZ.D.	14 to 25	DIP18/SOP18
TD62597AP/AF/AFN	Single-transistor array (common-emitter)	8	○	50	200	2.7 k	5	DIP18/SOP18 SSOP18
TD62598AP/AF/AFN	Single-transistor array (common-emitter)	8	○	50	200	10.5 k	6 to 15	DIP18/SOP18 SSOP18
TD62601P/F	Threshold-free driver (inverted output)	6		20	10	1 M	4 to 18	DIP16/SOP16
TD62602P/F	Threshold-free driver (inverted output, open-collector)	6		20	10	1 M	4 to 18	DIP16/SOP16
TD62603P/F	Threshold-free driver (non-inverted output)	6		20	10	1 M	4 to 18	DIP16/SOP16
TD62604P/F	Threshold-free driver (non-inverted output, open-collector)	6		20	10	1 M	4 to 18	DIP16/SOP16
TD62703P/F	High breakdown voltage, source-type driver	6		60	−50	2.7 k	5	DIP14/SOP14
TD62705P/F	High breakdown voltage, source-type driver	6		60	−50	47 k	6 to 15	DIP16/SOP16
TD62706P/F	High breakdown voltage, source-type driver	6		60	−50	10 k	5	DIP16/SOP16
TD62708N	Source-type darlington driver (with Enable pin)	8		40	−1800	NA	5	DIP24N
TD62781AP	Source-type darlington driver (with pull-down resistor)	8		60	−50	10 k	5	DIP18
TD62782F	Source-type darlington driver (with pull-down resistor)	8		35	−50	20 k	6 to 15	SOP18
TD62783AP/AF/AFN	Source-type darlington driver	8	○	50	−500	10 k	5	DIP18/SOP18 SSOP18
TD62784AP/AF/AFN	Source-type darlington driver	8	○	50	−500	10 k	6 to 15	DIP18/SOP18 SSOP18
TD62785P/F	Source-type darlington driver	8		7	−500	5.6-k pull-up	5	DIP18/SOP18
TD62786AP/AF/AFN	Source-type darlington driver	8	○	50	−500	14 k	5	DIP18/SOP18 SSOP18
TD62787AP/AF	Source-type darlington driver	8	○	50	−500	14 k + D.	5	DIP18/SOP18

(DMOS Array Series)

Part Number	Package	Use	Structure
TB62003F/P	SOP20/DIP20	8-bit DMOS driver	8-bit DMOS driver with inverter gate, 35 V / 200 mA
TB62004F/P	SOP20/DIP20	8-bit DMOS driver	8-bit DMOS driver with non-inverter gate, 35 V / 200 mA
TB62006F/P	SOP20/DIP20	8-bit DMOS driver	8-bit DMOS driver with NAND gate, 35 V / 200 mA
TB62007F/P	SOP20/DIP20	8-bit DMOS driver	8-bit DMOS driver with AND gate, 35 V / 200 mA
TB62008F/P	SOP20/DIP20	8-bit DMOS driver	8-bit DMOS driver with NOR gate, 35 V / 200 mA
TB62009F/P	SOP20/DIP20	8-bit DMOS driver	8-bit DMOS driver with OR gate, 35 V / 200 mA

(Multi-Chip Transistor Array Series)

Part Number	Device Type	Output Breakdown Voltage (V)	Output Current (A)	Package
TD62M4700F	2-ch push-pull driver, low-saturation type	10	±2.0	SSOP16
TD62M2701F	2-ch push-pull driver, low-saturation type	10	±2.0	SSOP16
TD62M2702F	2-ch push-pull driver, low-saturation type	10	±2.0	SSOP16
TD62M3600F	3-ch source driver, low-saturation type	10	−2.0	SSOP10
TD62M3601F	3-ch source driver, low-saturation type	30	−1.5	SSOP10
TD62M3700F	3-ch push-pull driver, low-saturation type	30	±1.5	SSOP16
TD62M3701F	3-ch push-pull driver, low-saturation type	10	±2.0	SSOP16
TD62M3702F	3-ch push-pull driver, low-saturation type	15	±2.0	SSOP16
TD62M3704F	3-ch push-pull driver, low-saturation type	10	−0.4	SSOP16
TD62M4500F	4-ch sink driver, low-saturation type	10	2.0	SSOP16
TD62M4501F	4-ch sink driver, low-saturation type	20	2.0	SSOP16
TD62M4503AFN	4-ch power MOSFET sink driver + diode	60	0.8	SSOP24 (0.65 mm)
TD62M4600F	4-ch source driver, low-saturation type	10	−2.0	SSOP16
TD62M4601F	4-ch source driver, low-saturation type	20	−2.0	SSOP16
TD62M8500F	8-ch sink driver, low-saturation type	10	2.0	HSOP16
TD62M8501F	8-ch sink driver, low-saturation type	20	2.0	HSOP16
TD62M8600F	8-ch source driver, low-saturation type	10	−2.0	HSOP16
TD62M8601F	8-ch source driver, low-saturation type	20	−2.0	HSOP16
TD62M8603F	8-ch source driver, low-saturation type	30	−1.5	HSOP16
TD62M8604AF	8-ch source driver, low-saturation type	50	−2.0	HSOP16

LED Driver ICs (LED Panel Driver ICs)

Part Number	Package	Use	Structure
TB62702P/F	DIP20/SOP20	10-segment display	10-bit DMOS sink driver (SIPO, latch), 30 V/30 mA
TB62705CP/**CF**/CFN	DIP16/SSOP16	Small LED panel	8-bit constant-current sink driver (SIPO, latch), 17 V/90 mA
TB62706BN/**BF**	SDIP24N/SSOP24	Large LED panel	16-bit constant-current sink driver (SIPO, latch), 17 V/90 mA
TB62707F	SSOP24	Full-color LED panel	8-bit constant-current sink driver (PIPO, latch), 17 V/90 mA
TB62708N	SDIP30N	Large LED panel	16-bit constant-current source driver (SIPO, latch), 17 V/−90 mA
TB62709N/F	SDIP24N/SSOP24	7-segment display	4-digit 7-segment display (anode common) decoder + constant-current driver (SIPO), 17 V/50 mA, −400 mA/digit
TB62710P/F/FN	DIP20/SSOP24/SSOP20	Small LED panel	8-bit constant-current source driver (SIPO, latch), 17 V/−90 mA
TB62713N/F	SDIP24N/SSOP24	7 × 5 dot display	7 × 5 dot display (common cathode rows) decoder + constant-current driver (SIPO), 17 V/60 mA, −420 mA/digit
TB62715FN	SSOP20	Small LED panel	8-bit constant-current sink driver (SIPO, latch), 17 V/150 mA
TB62717N/F	SDIP42N/QFP48	Full-color LED panel	24-bit constant-current sink driver (SIPO, latch), 17 V/50 mA
TB62718AF	HQFP64	Full-color LED panel	PWM control 256-level gray scale + current compensation, 16-bit constant-current sink driver, 26 V/80 mA
TB62719AF	HQFP64	Full-color LED panel	PWM control 256-level gray scale + current compensation, 16-bit constant-current sink driver, 26 V/80 mA (upward compatible with the TB62718AF)
TB62725BP/**BF**/BFN	DIP16/SSOP16/SSOP16	Small LED panel	3.3-V to 5-V drive, 8-bit constant-current sink driver (SIPO, latch), 17 V/90 mA
TB62726AN/**AF**	SDIP24N/SSOP24	Large LED panel	3.3-V to 5-V drive, 16-bit constant-current sink driver (SIPO, latch), 17 V/90 mA
TB62727FN	SSOP30	Full-color LED panel	16-bit constant-current sink driver with current compensate (SIPO, latch), 17 V/60 mA

SIPO: Serial-in parallel-out

PIPO: Parallel-in parallel-out

Toshiba manufactures the products in bold in the factories in Malaysia and Thailand as well as in Japan. We ship the products from the factories for overseas assembly of end products.

(White LED Driver ICs)

Part Number	Package	Use	Structure
TB62731FUG	SOT23-6pin	White color LED back light driver	Constant current step-up DC/DC converter (output: 320 mW, efficiency: 80%, maximum output voltage: 30 V, maximum switching current: 0.3 A)
TB62732FUG			
** TB62733FTG	VQON24	White color LED back light driver	Charge-pump type DC/DC converter (2ch output), output current: 200 mA
TB62734FMG	SON8	White color LED back light driver	Constant current step-up DC/DC converter, efficiency: 85% (max), output: 600 mW, (with over voltage protection function)
** TB62735FTG	QFN16	White color LED back light driver	Charge-pump DC/DC converter + constant-current driver (4ch)
** TB62736FUG	SOT23-6pin	White color LED back light driver	Constant current step-up DC/DC converter, efficiency: 85% (max)
** TB62737FUG	SOT23-6pin	White color LED back light driver	Constant current step-up DC/DC converter, efficiency: 85% (max), (with over voltage protection function)

**: Under development

CCD Clock Driver ICs (CCD Clock Driver ICs)

Part Number	Package	Use	Structure
TB62801F	HSOP16	CCD linear image sensor	Linear CCD clock driver
TB62802F	HSOP16	CCD linear image sensor	Linear CCD clock driver (EMI noise measures product)

Thermal Head Driver ICs

Part Number	Package	Device Type	Structure
TD62C805F	QFP80	48-bit TPH driver	8-bit parallel input, 6-stage shift register latch drivers (30 V / 100 mA)
TD62C851P	DIP20	8-bit solenoid driver	8-bit shift register latch drivers (50 V / 200 mA)
TD62C852P	DIP20	8-bit solenoid driver	8-bit shift register latch drivers (50 V / 500 mA)
TD62C854AF	SSOP24	8-bit LED driver	With Power ON Reset, 8-bit shift register latch drivers (50 V / 500 mA)
TB62600F	QFP100	64-bit TPH driver	8-bit parallel input, 8-stage (1 bit input, 64-stage) shift register latch drivers (30 V / 130 mA)

Vending Machine Driver ICs

Part Number	Package	Use	Structure	
TD62650F	SSOP30 (1.0 mm)	Vending machine system driver	5-V power supply and power supply monitor + 24-V communications interface IC	Power supply monitor level: 92% of 5 V or less Built-in resistor for reset timer
TD62651F				Power supply monitor level: 85% of 5 V or less With external resistor for timer reset
TD62652F				Power supply monitor level: 92% of 5 V or less With external resistor for timer reset

Other Driver ICs

Part Number	Package	Use	Structure
TD62930P/F	DIP16/SSOP16 (1.0 mm)	IGBT gate driver for home appliances (inverters)	3-ch small-signal push-pull driver (30 V/± 100 mA)
TD62C854F	SSOP24 (1 mm)	General purpose use	8 outputs darlington driver
TD62C854AF	SSOP24 (1 mm)		8 outputs darlington driver with Power ON Reset

Motor Drivers

Brush Motor Driver ICs (Bridge Driver ICs)

Part Number	Package	Features
TA7354P	SIP9	I_{OUT} = 0.2 A (avg), 0.6 A (peak), built-in diode, 4 modes
TA7257P	HSIP7	I_{OUT} = 1.5 A (avg), 4.5 A (peak), built-in diode, 4 modes
TA7267BP	HSIP7	I_{OUT} = 1.0 A (avg), 3.0 A (peak), built-in diode, 4 modes
TA7279AP/P	HDIP14	2-channel 4-mode driver, I_{OUT} = 1.0 A (avg), 3.0 A (peak), built-in diode, built-in thermal shutdown circuit
TA7288P	HSIP10	Sequential dual driver with Vref, I_{OUT} = 1.0 A (avg), 2.0 A (peak), built-in diode, 4 modes, built-in thermal shutdown circuit/output pin protection circuit, built-in shoot through current protection circuit, hysteresis for all inputs
TA8400P	DIP16	Sequential dual driver with $V_{ref\ A}$ and $V_{ref\ B}$, I_{OUT} = 1.0 A (peak), built-in diode, 4 modes, built-in thermal shutdown circuit, built-in shoot through current protection circuit, hysteresis for all inputs
TA8405S	SIP9	Sequential dual driver, I_{OUT} = 1.0 A (peak), built-in diode, 4 modes, built-in thermal shutdown circuit, built-in shoot through current protection circuit, hysteresis for all inputs
TA8409S	SIP9	4-mode driver, I_{OUT} = 0.4 A (avg), 1.0 A (peak), V_{CC} (max) = 25 V, built-in diode, built-in thermal shutdown circuit, built-in standby circuit, hysteresis for all inputs
TA8409F	SSOP10	
TA7291P	HSIP10	4-mode driver, I_{OUT} = 1.0 A (avg), 2.0 A (peak), built-in diode, with V_{ref}, V_{CC} (max) = 25 V (P)/30 V (AP), built-in thermal shutdown circuit/output pin protection circuit, built-in standby circuit, hysteresis for all inputs
TA7291S	SIP9	4-mode driver, I_{OUT} = 0.4 A (avg), 1.2 A (peak), built-in diode, with V_{ref}, V_{CC} (max) = 25 V (S)/30 V (AS), built-in thermal shutdown circuit/output pin protection circuit, built-in standby circuit, hysteresis for all inputs
TA7291F	HSOP16	4-mode driver, I_{OUT} = 0.4 A (avg), 1.2 A (peak), built-in diode, with V_{ref}, V_{CC} (max) = 25 V (F)/30 V (AF), built-in thermal shutdown circuit/output pin protection circuit, built-in standby circuit, hysteresis for all inputs
TA8428K	HSIP7	4-mode driver, I_{OUT} = 1.5 A (avg), 3.0 A (peak), V_{CC} (max) = 30 V, built-in diode, built-in thermal shutdown circuit/overcurrent protection circuit
TA8428F	HSOP20	4-mode driver, I_{OUT} = 0.8 A (avg), 2.4 A (peak), V_{CC} (max) = 30 V, built-in diode, built-in thermal shutdown circuit/overcurrent protection circuit
TA8429H	HZIP12	4-mode driver, I_{OUT} = 3.0 A (avg), 4.5 A (peak), V_{CC} (max) = 30 V, built-in thermal shutdown circuit/overcurrent protection circuit, HZIP power package
TD62M4700F	SSOP16	Ultra-low voltage, low-saturation voltage type, I_{OUT} = 2.0 A
TA7733F	SSOP16	Low-voltage use (V_{CC} (min) = 1.8 V), I_{OUT} = 0.5 A, 4 modes, wide operating voltage range, can be used as interface driver, high-efficient drive
TA8401F	SSOP16	Low-voltage use (V_{CC} (min) = 3.0 V), I_{OUT} = 0.5 A, 4 modes, wide operating voltage range, can be used as interface driver, high-efficient drive
TA8440H	HZIP12	Bridge H switch 50 V, I_{OUT} = 1.5 A (avg), 3.0 A (peak), driver with phase-chopper pin, 4 modes, built-in diode, built-in thermal shutdown circuit, CMOS compatible input
✧ TA8482FN	SSOP30	Bridge driver + sensor amp in a single chip, V_{CC} (min) = 2.7 V, I_{OUT} = 0.6 A (peak), 4 modes, built-in current limiter, built-in thermal shutdown circuit, built-in tape top/end sensor amp
✧ TA8496FL	QON24	Constant-current operation, I_{OUT} = 20 mA, built-in low-noise high-gain amp, magnetic head read/write IC for cameras, writing and detecting of magnetic recording signals
TB6501P	DIP16	H switch 25 V with rotation detector, 1 A, with Vref, 4 modes, rotation detection using back-EMF, built-in thermal shutdown circuit, output voltage control
TB6524FN	SSOP16	2-channel driver, I_{OUT} = 0.1 A, constant-current operation possible (V_{CC} = 2.0 V to 7.0 V), 3 modes, built-in diode, Enable pin
TB6549P/PG	DIP16	PWM control bridge driver, I_{OUT} (max) = 3.5 A, V_{CC} (max) = 30 V, 4 modes, PWM control, standby function, built-in thermal shutdown (TSD) circuit/overcurrent protection circuit
TB6549F/FG	HSOP20	
** TB6549HQ	HZIP25	PWM control bridge driver, I_{OUT} (max) = 4.5 A, V_{CC} (max) = 30 V, 4 modes, PWM control, standby function, built-in thermal shutdown (TSD) circuit/overcurrent protection circuit
✧ TB62300F	HSOP-36-0.65	PWM chopper type, constant-current dual DC motor driver, 40 V/8.0 A (peak), 4 modes, constant-current PWM control, standby function, built-in thermal shutdown (TSD) circuit/overcurrent protection circuit
✧ TB6552FL/FLG	QON24	2-ch PWM bridge driver, 1.5 V/0.8 A (peak), 4 modes, standby function, built-in thermal shutdown (TSD) circuit, direct PWM control
✧ TB6552FN/FNG	SSOP16	2-ch PWM bridge driver, 1.5 V/0.8 A (peak), 4 modes, standby function, built-in thermal shutdown (TSD) circuit, direct PWM control
✧ TB6592FL/FLG	QON24	2-ch PWM bridge driver, 6 V/0.8 A (peak), 4 modes, standby function, built-in thermal shutdown (TSD) circuit, direct PWM control
✧* TB6555FLG	QON36	4-ch PWM bridge driver, 15 V/0.8 A (peak), 4 modes, standby function, built-in thermal shutdown (TSD) circuit, direct PWM control
✧* TB6595FLG	QON36	4-ch PWM bridge driver, 6 V/0.8 A (peak), 4 modes, standby function, built-in thermal shutdown (TSD) circuit, direct PWM control
✧ TB6591FL/FLG	QON48	7-ch PWM bridge driver (6-ch full-bridge driver + 1-ch constant-current bridge driver), 6.0 V/0.8 A (peak), 4 modes, output PWM control, standby function, built-in thermal shutdown (TSD) circuit
✧ TB6557FLG	QON36	6-ch PWM bridge driver, 15 V/0.8 A (peak), 4 modes, standby function, built-in thermal shutdown (TSD) circuit, direct PWM control, built-in serial interface decoder with 6 bit EVR DAC, weight register
✧** TB6558FLG	QON24	2-ch PWM chopper type, constant-current driver, 15 V/0.8 A (peak), 4 modes, constant-current PWM control, standby function, built-in thermal shutdown (TSD) circuit
** TB6561NG	SDIP24	2-ch PWM bridge driver, 40 V/1.5 A (peak), 4 modes, on-chip V_{DD} (5 V) regulator for internal circuit, constant-current PWM control, standby function, built-in thermal shutdown (TSD) circuit

✧: Dry-packed product

*: New product

**: Under development

(Power Op-Amp)

Circuit	Part Number	Package	Maximum Ratings		Remarks
			Vcc (V)	Io (A)	
Dual	TA7256P	HSIP10	±18	0.5	Internally phase-corrected type
	TA7272P	HSIP10	±18	1.2	Internally phase-corrected type

Brushless Motor Driver ICs (3-phase Controllers/Drivers)

Part Number	Package	Maximum Ratings		Features
		Io (A)	Vo (V)	
TA7712P	DIP20	0.025	8	General-purpose motor driver, external transistor system, 3-phase full-wave driver, rotation signal output function, brake function
TA7712F	SSOP24	0.025	8	
TA7713P	DIP20	0.025	8	
TB6539N	SDIP24	0.02	18	3-phase full-wave sine-wave current PWM controller
TB6539F	SSOP30	0.02	18	
TB6551F	SSOP24	0.002	12	
TB6556F	SSOP30	0.002	12	3-phase full-wave sine-wave current PWM controller, automatic lead angle control
* TB6581HG	HZIP25	2.0	500	3-phase full-wave sine-wave PWM brushless driver, multi-chip package of sine-wave controller and TPD4103AK
TA7259P	HDIP14	1.2	26	3-phase full-wave driver, current control type
TA7259P(LB)	HSOP14	1.2	26	
TA7259F	HSOP20	1.2	26	
TA7262P	HDIP14	1.5	25	3-phase full-wave driver, voltage control type
TA7262P(LB)	HSOP14	1.5	25	
TA7262F	HSOP20	1.5	25	
TA7736P	DIP16	1.0	26	3-phase full-wave driver, current control type
TA7736F	HSOP16	1.0	26	
TA7745P	DIP16	1.0	18	3-phase full-wave/half-wave driver, voltage control type, suitable for low-voltage use
TA7745F	SSOP16	1.0	18	
TA8416F	SSOP16	0.7	8	3-phase full-wave/half-wave driver, suitable for low-voltage use, 2 hall sensor drive
TA8423P	DIP16	1.2	18	3-phase full-wave driver, 1-terminal input control, current control type, built-in reference voltage circuit for control amp
TA8423F	HSOP16	1.2	18	
TA8424F	HSOP20	1.2	18	3-phase full-wave driver, Low-noise drive, built-in FG amp
TA8463F	HQFP30	0.6	8	3-phase full-wave driver, digital servo, Low-noise drive, built-in index amp
TA8466AF	HSOP16	0.7	18	3-phase full-wave driver, 1-terminal input control, Low-noise drive, semi-linear type, reduced external parts
TA8470AF	HSOP20	1.2	18	Low-noise drive, built-in FG amp
TA8483CP	HDIP14	2.0	35	3-phase full-wave driver, PWM sensorless drive with the TB6520P
TA84005F	SSOP30	1.0	25	3-phase full-wave driver, PWM sensorless drive with the TB6548F
TA84006F	SSOP30	1.0	25	3-phase full-wave driver
TA8486F	SSOP24	2.0	15	Low-saturation voltage multi-chip transistor array, 3-phase + H bridge
TA8490AF	SSOP30	1.2	16	CD-ROM spindle motor driver
TA8492P	DIP16	1.5	20	3-phase full-wave driver, voltage control type
TA8493F	SSOP30	1.2	16	CD-ROM spindle motor driver, direct PWM control system
TA8493AF	SSOP30	1.2	16	
TA8493BF	SSOP30	1.2	16	
TA8499F	SSOP30	1.2	16	
✧ TB6519F	QFP64 (0.5 mm)	0.01	14	Movie cylinder motor and capstan motor controller
✧ TB6525F	QFP64 (0.5 mm)	0.015	8	Movie cylinder motor and loading motor controller
✧ TB6534F	QFP64 (0.5 mm)	0.01	12	Movie cylinder motor and capstan motor controller
TB6520P	DIP16	0.0002	7	PWM type, sensorless motor controller, V_{CC} = 5 V, with TA8483CP
TB6537P/F	DIP18/SSOP24	0.02	5.5	PWM type, sensorless motor controller, V_{CC} = 5 V, external transistor system
TB6548F	SSOP24	0.02	5.5	PWM type, sensorless motor controller, V_{CC} = 5 V, with TA84005F
* TB6575FNG	SSOP24 (0.65 mm)	0.02	5.5	PWM type, sensorless motor controller, analog speed control input, function to improve startup

✧: Dry-packed product

*: New product

(2-phase Fan Driver Controllers)

Part Number	Package	Maximum Ratings		Features
		Io (A)	Vo (V)	
TA8420AF	SSOP10	2.0	15	Fan motor driver, with FG output
TA8421AF	SSOP10	2.0	15	Fan motor driver, with motor status detection pin
TA8462F	SSOP10	1.5	15	Fan motor driver, with FG output and motor status detection pin
TA8473F	SSOP16	1.2	13.8	Fan motor driver, variable speed type, with radio noise reduction pin
TA8473FN	SSOP16 (0.65 mm)	1.2	13.8	

Stepping Motor Driver ICs (Bipolar)

Part Number	Package	Maximum Ratings		Features
		Io (A)	Vo (V)	
TA8411L	HDIP24	0.8	30	Serial input system driver for fax machines and printers
TB6500AH	HZIP25	0.8	30	
TA8435H	HZIP25	1.5	40	Pseudo sine-wave drive (PWM chopper type), reset and monitor pins, built-in micro-step decoder, clock input
✧ TB62201AF	HSOP-36-0.65	1.5	40	Pseudo sine-wave drive (PWM chopper type), dual-stepping motor driver
✧ TB62202AFG	HSOP-36-0.65	1.0	40	Pseudo sine-wave drive (PWM chopper type), dual-stepping motor driver
✧ TB62205FG	HSOP-36-0.65	0.7	30	Built-in 2-ch step-down DC/DC converter, pseudo sine-wave drive (PWM chopper type), on-chip V_{DD}(5 V) regulator for internal circuit
TB62206FG	HSOP20-1.00	1.8	40	PWM chopper type, phase input, 2-phase/1-2 phase excitation
✧* TB62207BFG	HSOP-36-0.65	8.0	37	Pseudo sine-wave drive (PWM chopper type), dual-stepping motor driver Built-in 2-ch step-down DC/DC converter, on-chip V_{DD}(5 V) regulator for internal circuit
✧ TB62209FG	HSOP-36-0.65	1.8	40	Pseudo sine-wave drive (PWM chopper type), built-in micro-step decoder, clock input
✧** TB62217AFG	THQFP64	8.0	50	Pseudo sine-wave drive (PWM chopper type), dual-stepping motor driver Built-in 3-ch step-down DC/DC converter, on-chip V_{DD}(5 V) regulator for internal circuit
TB6504F	SSOP24	0.15	18	Pseudo sine-wave drive (PWM chopper type), reset and monitor pins, built-in micro-step decoder, clock input
TB6512AF	SSOP24	0.12	12	Pseudo sine-wave drive (PWM chopper type), reset and monitor pins
TB6526AF	SSOP24	0.12	10	Pseudo sine-wave drive (PWM chopper type), reset and monitor pins, built-in micro-step decoder, external PNP transistor
TA8430AF	HSOP16	0.6	8	2-phase bipolar stepping motor driver, with Enable and output voltage adjustment pins
TA84002F	HSOP20	1.0	35	Bipolar PWM chopper type, phase input, 2-phase/1-2 phase excitation
TA7289P	HDIP14	1.5	30	Bipolar PWM chopper type, built-in 4-bit DA conversion
TA7289F	HSOP20	0.7	30	
TA7774P	DIP16	0.4	17	2-phase bipolar drive, switchable power supply system
TA7774F	HSOP16	0.4	17	
✧** TB6598FNG	SSOP16	0.8	15	PWM chopper type, phase input, 2-phase/1-2 phase excitation
** TB6562ANG	SDIP24	1.5	40	PWM chopper type, phase input, 2-phase/1-2 phase excitation, on-chip V_{DD} (5 V) regulator for internal circuit

✧: Dry-packed product

*: New product

**: Under development

(Unipolar)

Part Number	Package	Maximum Ratings		Features
		Io (A)	Vo (V)	
TD62064AP/AF	DIP16/HSOP16	1.5	50	NPN darlington transistor array containing 4 circuits, with clamp diode, active-High
TD62064BP-1/BF	DIP16/HSOP16	1.5	80	NPN darlington transistor array containing 4 circuits, with clamp diode, active-High
TD62107P	DIP16	0.75	45	NPN darlington transistor array containing 4 circuits, with clamp diode and Enable pin
TD62164AP/AF	DIP16/HSOP16	0.7	50	NPN single transistor array containing 4 circuits, with clamp diode, active-High
TD62164BP/BF	DIP16/HSOP16	0.7	80	NPN single transistor array containing 4 circuits, with clamp diode, active-High
TD62308AP/AF	DIP16/HSOP16	1.5	50	NPN darlington transistor array containing 4 circuits, with clamp diode, active-Low
TD62308BP-1/BF	DIP16/HSOP16	1.5	80	NPN darlington transistor array containing 4 circuits, with clamp diode, active-Low
TD62318AP/AF	DIP16/HSOP16	0.7	50	NPN single transistor array containing 4 circuits, with clamp diode, active-Low
TD62318BP/BF	DIP16/HSOP16	0.7	80	NPN single transistor array containing 4 circuits, with clamp diode, active-Low
TA8415P	DIP16	0.4	28	Capable of 1-phase, 2-phase and 1-2 phase excitation of 3-phase/4-phase motors, unipolar system, clock input

(5-phase Controller)

Part Number	Package	Maximum Ratings		Features
		Io (A)	Vo (V)	
TB6528P	DIP24	0.03	20	5-phase universal controller

Power Supply ICs

Point Regulators (LDO Regulators)

Point regulators are small regulator ICs which can be individually assigned to circuit blocks as necessary. These devices incorporate an ON/OFF control function, which facilitates power management.

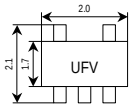
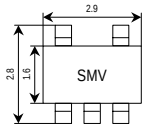
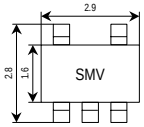
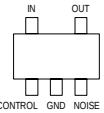
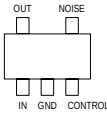
< Features >

- Small package
- Low saturation voltage
- Low noise
- High ripple rejection
- Built-in ON/OFF control function
- Built-in overtemperature and overcurrent protection circuits
- Capable to use a ceramic capacitor

< Low-Dropout Voltage Regulator Series >

- Single output power supply
  - TAR5S series
  - TAR5SB series
  - TAR5S**U series
- Dual output power supply
  - TAR8H series
  - TAR8D series

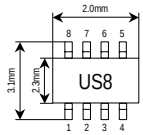
(Single Output Type)

Output Voltage (V)	Part Number			Rating	
	 (mm)	 (mm)	 (mm)	Output Current (mA)	Power Dissipation♦ (mW)
1.5	TAR5S15U	TAR5S15	TAR5SB15	200	450 (UFV) / 380 (SMV)
1.6	TAR5S16U	TAR5S16	TAR5SB16		
1.7	TAR5S17U	TAR5S17	TAR5SB17		
1.8	TAR5S18U	TAR5S18	TAR5SB18		
1.9	TAR5S19U	TAR5S19	TAR5SB19		
2.0	TAR5S20U	TAR5S20	TAR5SB20		
2.1	TAR5S21U	TAR5S21	TAR5SB21		
2.2	TAR5S22U	TAR5S22	TAR5SB22		
2.3	TAR5S23U	TAR5S23	TAR5SB23		
2.4	TAR5S24U	TAR5S24	TAR5SB24		
2.5	TAR5S25U	TAR5S25	TAR5SB25		
2.6	TAR5S26U	TAR5S26	TAR5SB26		
2.7	TAR5S27U	TAR5S27	TAR5SB27		
2.8	TAR5S28U	TAR5S28	TAR5SB28		
2.9	TAR5S29U	TAR5S29	TAR5SB29		
3.0	TAR5S30U	TAR5S30	TAR5SB30		
3.1	TAR5S31U	TAR5S31	TAR5SB31		
3.2	TAR5S32U	TAR5S32	TAR5SB32		
3.3	TAR5S33U	TAR5S33	TAR5SB33		
3.4	TAR5S34U	TAR5S34	TAR5SB34		
3.5	TAR5S35U	TAR5S35	TAR5SB35		
3.6	TAR5S36U	TAR5S36	TAR5SB36		
3.7	TAR5S37U	TAR5S37	TAR5SB37		
3.8	TAR5S38U	TAR5S38	TAR5SB38		
3.9	TAR5S39U	TAR5S39	TAR5SB39		
4.0	TAR5S40U	TAR5S40	TAR5SB40		
4.1	TAR5S41U	TAR5S41	TAR5SB41		
4.2	TAR5S42U	TAR5S42	TAR5SB42		
4.3	TAR5S43U	TAR5S43	TAR5SB43		
4.4	TAR5S44U	TAR5S44	TAR5SB44		
4.5	TAR5S45U	TAR5S45	TAR5SB45		
4.6	TAR5S46U	TAR5S46	TAR5SB46		
4.7	TAR5S47U	TAR5S47	TAR5SB47		
4.8	TAR5S48U	TAR5S48	TAR5SB48		
4.9	TAR5S49U	TAR5S49	TAR5SB49		
5.0	TAR5S50U	TAR5S50	TAR5SB50		
Pin Configuration					

♦: A result of an evaluation on a glass-epoxy board. (30 mm × 30 mm), Ta = 25°C

Please ask your local retailer about the devices with other output voltage.

(Dual Output Type)

Description	Part Number		Output Voltage (V)	Output Current (mA)	Power Dissipation♦	Internal Connection	Package
Synchronous switch type	TAR8H01K	Ach	2.8	100	400	1. CONTROL 2. Noise(A) 3. Noise(B) 4. GND 5. VOUT(B) 6. VIN(B) 7. VIN(A) 8. VOUT(A)	
		Bch	3.0	150			
	TAR8H02K	Ach	2.8	100			
		Bch	2.8	150			
	TAR8H03K	Ach	2.5	100			
		Bch	2.8	150			
	TAR8H04K	Ach	2.5	100			
		Bch	3.0	150			
	TAR8H05K	Ach	1.8	100			
		Bch	2.8	150			
	TAR8H06K	Ach	1.5	100			
		Bch	2.5	150			
Independent control type	TAR8D01K	Ach	2.5	100		1. Noise(A) 2. Noise(B) 3. CONTROL(A) 4. GND 5. CONTROL(B) 6. VOUT(B) 7. VIN 8. VOUT(A)	
		Bch	2.8				
	TAR8D02K	Ach	2.0				
		Bch	2.8				
	TAR8D03K	Ach	2.8				
		Bch	3.0				
	TAR8D04K	Ach	1.5				
		Bch	1.5				
	TAR8D05K	Ach	2.8				
		Bch	2.8				
	TAR8D06K	Ach	2.9				
		Bch	2.9				
	TAR8D07K	Ach	3.0				
		Bch	3.0				
	* TAR8D08K	Ach	2.8				
		Bch	2.85				

♦: A result of an evaluation on a glass-epoxy board. (30 mm × 30 mm), Ta = 25°C

*: New product

The output voltage of A and B channels can be set from 1.5V to 5.0V at 0.1V intervals. (Semi-customization of the output voltage is supported.)

Series Regulators

Polarity	Part Number	Use/Function	Output Voltage (typ.) (V)	Output Current (max) (mA)	Input Voltage (max) (V)	Drop-out Voltage (typ.) (V)	Bias Current (typ.) (mA)	Output Voltage Tolerance (%)	Power Dissipation (W)	Package	Equivalent
Positive-voltage output	TA7805F	High-current output Surface-mount PW-MOLD package	5	1000	35	2.0 (Io = 1000 mA)	4.2	±4 (Tj = 25°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	78XX
	TA78057F		5.7				4.3				
	TA7806F		6								
	TA7807F		7								
	TA7808F		8								
	TA7809F		9								
	TA7810F		10								
	TA7812F		12								
	TA7815F		15				4.4				
	TA7818F		18		40		4.5				
	TA7820F		20				4.6				
	TA7824F		24								
	TA7805S	High-current output Isolation package	5	1000	35	2.0 (Io = 1000 mA)	4.2	±4 (Tj = 25°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	78XX
	TA78057S		5.7				4.3				
	TA7806S		6								
	TA7807S		7								
	TA7808S		8								
	TA7809S		9								
	TA7810S		10								
	TA7812S		12								
	TA7815S		15				4.4				
	TA7818S		18		40		4.5				
	TA7820S		20				4.6				
	TA7824S		24								
	TA7805SB	High-current output Radial tape packing for automatic mounting	5	1000	35	2.0 (Io = 1000 mA)	4.2	±4 (Tj = 25°C)	1.8 (Ta = 25°C)	TPL	78XX
	TA78057SB		5.7				4.3				
	TA7806SB		6								
	TA7807SB		7								
	TA7808SB		8								
	TA7809SB		9								
	TA7810SB		10								
	TA7812SB		12								
	TA7815SB		15				4.4				
	TA7818SB		18		40		4.5				
	TA7820SB		20				4.6				
	TA7824SB		24								
	TA78033LF	High-current output Surface-mount PW-MOLD package	3.3	1000	20	2.0 (Io = 1000 mA)	3.0	±3 (Tj = 25°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	78XX
	TA7804LF		4								
	TA7805LF		5								
	TA7807LF		7								
	TA7808LF		8								
	TA7809LF		9								
	TA78033LS	High-current output Isolation package	3.3	1000	20	2.0 (Io = 1000 mA)	3.0	±3 (Tj = 25°C)	2.0 (Ta = 25°C) 15 (Tc = 25°C)	TO-220(NIS)	78XX
	TA7804LS		4								
	TA7805LS		5								
	TA7807LS		7								
	TA7808LS		8								
	TA7809LS		9								
	TA78M05F	Medium-current output Surface-mount PW-MOLD package	5	500	35	1.7 (Io = 350 mA)	4.5	±4 (Tj = 25°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	78MXX
	TA78M06F		6								
	TA78M08F		8				4.6				
	TA78M09F		9								
	TA78M10F		10				4.7				
	TA78M12F		12								
	TA78M15F		15				4.8				
	TA78M18F		18								
	TA78M20F		20		40		4.9				
	TA78M24F		24				5.0				

Polarity	Part Number	Use/Function	Output Voltage (typ.) (V)	Output Current (max) (mA)	Input Voltage (max) (V)	Drop-out Voltage (typ.) (V)	Bias Current (typ.) (mA)	Output Voltage Tolerance (%)	Power Dissipation (W)	Package	Equivalent
Positive-voltage output	TA78M05S	Medium-current output Isolation package	5	500	35	1.7 (Io = 350 mA)	4.5	±4 (Tj = 25°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	78MXX
	TA78M06S		6								
	TA78M08S		8				4.6				
	TA78M09S		9								
	TA78M10S		10				4.7				
	TA78M12S		12				4.8				
	TA78M15S		15								
	TA78M18S		18		40						
	TA78M20S		20				4.9				
	TA78M24S		24				5.0				
	TA78M05SB	Medium-current output Radial tape packing for automatic mounting	5	500	35	1.7 (Io = 350 mA)	4.5	±4 (Tj = 25°C)	1.8 (Ta = 25°C)	TPL	78MXX
	TA78M06SB		6								
	TA78M08SB		8				4.6				
	TA78M09SB		9								
	TA78M10SB		10				4.7				
	TA78M12SB		12				4.8				
	TA78M15SB		15								
	TA78M18SB		18		40						
	TA78M20SB		20				4.9				
	TA78M24SB		24				5.0				
	TA78L005AP	Low-current output Radial tape packing for automatic mounting	5	150	35	1.7 (Io = 150 mA)	3.1	±4 (Tj = 25°C)	0.8 (Ta = 25°C)	TO-92MOD	78LXX
	TA78L006AP		6								
	TA78L007AP		7								
	TA78L075AP		7.5								
	TA78L008AP		8								
	TA78L009AP		9				3.2				
	TA78L010AP		10								
	TA78L012AP		12								
	TA78L132AP		13.2								
	TA78L015AP		15				3.3				
	TA78L018AP		18								
	TA78L020AP		20		40						
	TA78L024AP		24				3.5				
	TA78L05F	Low-current output Surface-mount PW-MINI (SOT-89) package	5	150	35	1.7 (Io = 150 mA)	3.1	±5 (Tj = 25°C)	0.5 (Ta = 25°C)	PW-MINI (SOT-89)	78LXX
	TA78L06F		6								
	TA78L07F		7								
	TA78L08F		8								
	TA78L09F		9				3.2				
	TA78L10F		10								
	TA78L12F		12								
	TA78L15F		15				3.3				
	TA78L18F		18								
	TA78L20F		20		40						
	TA78L24F		24				3.5				
	TA78L05PF	Low-current output Small thin surface-mount PS-8 package	5	150	35	2.0 (Io = 150 mA)	3.1	±4 (Tj = 25°C)	1.3 (Ta = 25°C) Mounted on glass-epoxy substrate	PS-8	78LXX
	TA78L06PF		6								
	TA78L07PF		7								
	TA78L08PF		8								
	TA78L09PF		9				3.2				
	TA78L10PF		10								
	TA78L12PF		12								
	TA78L15PF		15								
	TA78L05S	Low-current output Radial tape packing for automatic mounting	5	100	35	1.7 (Io = 100 mA)	3.1	±4 (Tj = 25°C)	0.6 (Ta = 25°C)	TO-92	78LXX
	TA78L07S		7								
	TA78L08S		8								
	TA78L09S		9				3.2				
	TA78L10S		10								
	TA78L12S		12								
	TA78L15S		15				3.3				

Series Regulators (continued)

Polarity	Part Number	Use/Function	Output Voltage (typ.) (V)	Output Current (max) (mA)	Input Voltage (max) (V)	Drop-out Voltage (typ.) (V)	Bias Current (typ.) (mA)	Output Voltage Tolerance (%)	Power Dissipation (W)	Package	Equivalent
Positive-voltage output (low dropout)	TA48015F	High-current output Low drop-out Surface-mount PW-MOLD package	1.5	1000	16	0.8 Max	0.8 (Io = 0 A)	±4.5 (Tj = 0 to 125°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	
	TA48018F		1.8			0.5 Max (Io = 500 mA)					
	TA4802F		2								
	TA48025F		2.5								
	TA4803F		3								
	TA48033F		3.3								
	TA4805F		5								
	TA48018S	High-current output Low drop-out Isolation package	1.8	1000	16	0.5 Max (Io = 500 mA)	0.8 (Io = 0 A)	±4.5 (Tj = 0 to 125°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	
	TA4802S		2								
	TA48025S		2.5								
	TA4803S		3								
	TA48033S		3.3								
	TA4805S		5								
	** TA48015AF	High-current output Low drop-out Surface-mount PW-MOLD package	1.5	1000	16	0.8 Max	0.8 (Io = 0 A)	±4 (Tj = 0 to 125°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	
	** TA48018AF		1.8			0.5 Max (Io = 500 mA)					
	** TA48025AF		2.5								
	** TA48033AF		3.3								
	** TA4805AF		5								
	** TA4809AF		9								
	** TA48015AS	High-current output Low drop-out Isolation package	1.5	1000	16	0.8 Max	0.8 (Io = 0 A)	±4 (Tj = 0 to 125°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	
	** TA48018AS		1.8			0.5 Max (Io = 500 mA)					
	** TA48025AS		2.5								
	** TA48033AS		3.3								
	** TA4805AS		5								
	** TA4809AS		9								
	TA48M025F	Medium-current output Low drop-out Surface-mount PW-MOLD package	2.5	500	29	0.65 Max (Io = 500 mA)	0.8	±5 (Tj = 0 to 125°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	
	TA48M03F		3								
	TA48M033F		3.3								
	TA48M0345F		3.45								
	TA48M04F		4				0.9				
	TA48M05F		5				1.0 (Io = 0 A)				
	TA78DM05S	Medium-current output Low drop-out Isolation package	5	500	29 (load dump = 60 V)	0.75 Max (Io = 500 mA)	0.8	±6 (Tj = 25°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	
	TA78DM08S		8				0.9				
	TA78DM09S		9								
	TA78DM12S		12				1.0 (Io = 0 A)				
	** TA58L05F	Medium-current output Low drop-out Surface-mount PW-MOLD package	5	250	29 (load dump = 60 V)	0.4 Max (Io = 200 mA)	0.45	±4 (Ta = −40 to 105°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD	
	** TA58L06F		6				0.5				
	** TA58L08F		8				0.55				
	** TA58L09F		9				0.6				
	** TA58L10F		10				0.6				
	** TA58L12F		12				0.65				
	** TA58L15F		15				0.75 (Io = 0 A)				
	TA58L05S	Medium-current output Low drop-out Isolation package	5	250	29 (load dump = 60 V)	0.4 Max (Io = 200 mA)	0.45	±4 (Ta = −40 to 105°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	
	TA58L06S		6				0.5				
	TA58L08S		8				0.55				
	TA58L09S		9				0.6				
	TA58L10S		10				0.6				
	TA58L12S		12				0.65				
	TA58L15S		15				0.75 (Io = 0 A)				

**: Under development

Polarity	Part Number	Use/Function	Output Voltage (typ.) (V)	Output Current (max) (mA)	Input Voltage (max) (V)	Drop-out Voltage (typ.) (V)	Bias Current (typ.) (mA)	Output Voltage Tolerance (%)	Power Dissipation (W)	Package	Equivalent
Positive-voltage output (low dropout)	TA48L018F TA48L02F TA48L025F TA48L03F TA48L033F TA48L05F	Low-current output Low drop-out Surface-mount PW-MINI (SOT-89) package	1.8 2 2.5 3 3.3 5	150	16	0.5 Max (Io = 100 mA)	0.4 (Io = 0 A)	±5 (Tj = 0 to 125°C)	0.5 (Ta = 25°C)	PW-MINI (SOT-89)	
	TA78DS05BP TA78DS05CP TA78DS06BP TA78DS08BP TA78DS09BP TA78DS10BP TA78DS12BP TA78DS15BP	Low-current output Low drop-out Radial tape packing for automatic mounting	5 5 6 8 9 10 12 15	30	29 (load dump = 60 V)	0.3 Max (Io = 10 mA)	0.6 0.7 0.8 1.0 (Io = 0 A)	BP: ±10 CP: ±5 (Ta = −40 to 85°C)	0.8 (Ta = 25°C)	TO-92MOD	
	TA78DS05F TA78DS05AF TA78DS06F TA78DS08F TA78DS09F TA78DS10F TA78DS12F TA78DS15F	Low-current output Low drop-out Surface-mount PW-MINI (SOT-89) package	5 5 6 8 9 10 12 15	30	29 (load dump = 60 V)	0.3 Max (Io = 10 mA)	0.6 0.7 0.8 1.0 (Io = 0 A)	F: ±10 AF: ±5 (Ta = −40 to 85°C)	0.5 (Ta = 25°C)	PW-MINI (SOT-89)	
Negative-voltage output	TA79005S TA79006S TA79007S TA79008S TA79009S TA79010S TA79012S TA79015S TA79018S TA79020S TA79024S	High-current output Isolation package	−5 −6 −7 −8 −9 −10 −12 −15 −18 −20 −24	1000	−35 −40	2.0 (Io = 1.0 A)	4.3 4.4 4.5 4.6	±4 (Tj = 25°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220(NIS)	79XX
	TA79005SB TA79006SB TA79007SB TA79008SB TA79009SB TA79010SB TA79012SB TA79015SB TA79018SB TA79020SB TA79024SB	High-current output Radial tape packing for automatic mounting	−5 −6 −7 −8 −9 −10 −12 −15 −18 −20 −24	1000	−35 −40	2.0 (Io = 1.0 A)	4.3 4.4 4.5 4.6	±4 (Tj = 25°C)	1.8 (Ta = 25°C)	TPL	79XX
	TA79L05F TA79L06F TA79L08F TA79L09F TA79L10F TA79L12F TA79L15F TA79L18F TA79L20F TA79L24F	Low-current output Surface-mount PW-MINI (SOT-89) package	−5 −6 −8 −9 −10 −12 −15 −18 −20 −24	150	−35 −40	1.7 (Io = 40 mA)	3.1 3.2 3.3 3.5	±4 (Tj = 25°C)	0.5 (Ta = 25°C)	PW-MINI (SOT-89)	79LXX
	TA79L005P TA79L006P TA79L008P TA79L009P TA79L010P TA79L012P TA79L015P TA79L018P TA79L020P TA79L024P	Low-current output Radial tape packing for automatic mounting	−5 −6 −8 −9 −10 −12 −15 −18 −20 −24	150	−35 −40	1.7 (Io = 40 mA)	3.1 3.2 3.3 3.5	±4 (Tj = 25°C)	0.8 (Ta = 25°C)	TO-92MOD	79LXX

Shunt Regulators

Polarity	Part Number	Use/Function	Reference Voltage (typ.) (V)	Output Voltage (typ.) (V)	Cathode Current (max) (mA)	Cathode Voltage (max) (V)	Minimum Cathode Current (max) (mA)	Reference Voltage Tolerance (%)	Power Dissipation (W)	Package	Equivalent
Positive-voltage output	TA76431F/FR	Variable output voltage Surface-mount PW-MINI (SOT-89) package	2.495	Variable 2.495 to 36	Sink 150	37	1.0	±2.2 (Ta = 25°C)	0.5 (Ta = 25°C)	PW-MINI (SOT-89)	431
	TA76431S	Variable output voltage Radial tape packing for automatic mounting							0.8 (Ta = 25°C)	TO-92MOD	431
	TA76L431FT	Variable output voltage Small thin surface-mount UFV package	2.49	Variable 2.49 to 19	Sink 50	20	0.5	±1.0 (Ta = 25°C)	0.45 (Ta = 25°C) Mounted on glass-epoxy substrate	UFV	431
	TA76L431S	Variable output voltage Radial tape packing for automatic mounting							0.8 (Ta = 25°C)	TO-92MOD	431
	TA76432FT TA76432AFT	Variable output voltage Small thin surface-mount UFV package	1.26	Variable 1.26 to 19	Sink 20	20	0.4	±1.4 A: ±1.0 (Ta = 25°C)	0.45 (Ta = 25°C) Mounted on glass-epoxy substrate	UFV	
	TA76432FC	Variable output voltage Surface-mount SMV package							0.38 (Ta = 25°C) Mounted on glass-epoxy substrate	SMV	
	TA76432F/FR TA76432AF/AFR	Variable output voltage Surface-mount PW-MINI (SOT-89) package							0.5 (Ta = 25°C)	PW-MINI (SOT-89)	
	TA76432S TA76432AS	Variable output voltage Radial tape packing for automatic mounting							0.8 (Ta = 25°C)	TO-92MOD	
	TA76433FC	Cathod separation type Variable output voltage Surface-mount SMV package	1.26	Variable 1.26 to 14	Sink 20	15	0.4	±1.4 (Ta = 25°C)	0.38 (Ta = 25°C) Mounted on glass-epoxy substrate	SMV	

Multi-Functional Regulators

Polarity	Part Number	Use/Function	Output Voltage (typ.) (V)	Output Current (max) (mA)	Input Voltage (max) (V)	Drop-out Voltage (typ.) (V)	Bias Current (typ.) (mA)	Output Voltage Tolerance (%)	Power Dissipation (W)	Package	Equivalent
Positive-voltage output (low dropout)	TA48S018F TA48S02F TA48S025F TA48S03F TA48S033F TA48S05F	High-current output Low drop-out Built-in ON/OFF control function Bias current (OFF): 5 μA (max) Surface-mount 5-pin PW-MOLD package	1.8 2 2.5 3 3.3 5	1000	16	0.5 Max (Io = 500 mA)	0.8 (Io = 0 A)	±4.5 (Tj = 0 to 125°C)	1.0 (Ta = 25°C) 10 (Tc = 25°C)	PW-MOLD 5 pin	
	TA8004SA	Medium-current output Built-in power-on reset timer function Low drop-out	5	400	29 (load dump = 60 V)	0.6 Max (Io = 400 mA)	3.0 (Io = 0 A)	±5 (Ta = −40 to 85°C)	2.0 (Ta = 25°C) 20 (Tc = 25°C)	TO-220N(IS) 5 pin	

AC-DC Converter ICs

Part Number	Package	Use	Functions/Features	Operating Supply Voltage Range
TA1294N/F	P-SDIP24-300-1.78 P-SSOP24-300-1.78	AC/DC switching power supply control	Power factor correction + PWM control, f_H = 30 kHz to 110 kHz Can be used for both flyback (external synchronization) and half-bridge converters.	7.0 to 14.0 V
TA1307P	P-DIP8-300-2.54A		Reduced standby power consumption by intermittent control, f_H = 20 kHz to 150 kHz	7.5 to 11.5 V
TA1319AP/AF	P-DIP8-300-2.54A P-SOP8-225-1.27		PWM control (for power supply at 50 W or less), AC wide input voltage, automatic frequency reduction at standby mode	9.5 to 24.0 V
** TA1361P/F	P-DIP8-300-2.54A P-SOP8-225-1.27		RCC control (for power supply at 140 W or less), AC wide input voltage, automatic frequency reduction at standby mode	9.0 to 23.5 V
TC90A75P/F	DIP8-C-300A DIP8-F-255C		AC transformer control, reduced standby power consumption to maximum by intermittent control	8.5 to 14.0 V

**: Under development

Other Power Supply ICs

Part Number	Package	Use	Structure
* TB62501F	VQFP64	Power supply monitor + controller for notebook PCs	Power management IC for notebook PCs
TB62503FM	SON8	Step-down power supply	Step-down DC/DC converter, 1.3-V output, efficiency = 85%
* TB62504FMG	SON8	System power supply for cellular phone PAs	Step-down DC/DC converter (variable output) + switching MOSFET, output current capability 300 mA
TB6807F	VQFP64	Power supply monitor + controller for notebook PCs	Power management IC for notebook PCs
TB6808F	VQFP64	Power supply monitor + controller for notebook PCs	Power management IC for notebook PCs
** TB62507FMG	SON8	System power supply for cellular phone PAs	Step-down DC/DC converter (variable output) + switching MOSFET, output current capability 500 mA
** TB62505FTG	VQON24	System power supply for cellular phone PAs	Step-down DC/DC converter (variable output) + switching MOSFET, output current capability 500 mA + reference regulater (285 V)

*: New product

**: Under development

Small-Signal MMICs (High-Frequency Cell-pack)

Wide Band Amplifiers

Part Number	Package	Structure	Applications	Electrical Characteristics (Ta = 25°C)
TA4000F	SM6	Bipolar linear wideband amp	BS tuners, communications equipment, VHF/UHF amps	B/W = 1.3 GHz Gp = 15dB @f = 400 MHz, V_{CC} = 5 V
TA4001F	SMQ	Bipolar linear wideband amp	BS tuners, communications equipment, VHF/UHF amps	B/W = 2.4 GHz Gp = 12.5dB @f = 500 MHz, V_{CC} = 5 V
TA4002F	SMQ	Bipolar linear wideband amp	BS tuners, communications equipment, VHF/UHF amps	B/W = 1.3 GHz Gp = 23dB @f = 500 MHz, V_{CC} = 5 V
TA4004F	SMV	Bipolar linear wideband amp	Communications equipment, VHF/UHF amps	B/W = 1.2 GHz Gp = 10.5dB @f = 500 MHz, V_{CC} = 2 V
TA4011AFE	ESV	Bipolar linear wideband amp	Communications equipment, UHF amp	B/W = 2.4 GHz, P_{O1dB} = −6dBmW @V_{CC} = 2 V
TA4011FU	USV	Bipolar linear wideband amp	Communications equipment, UHF amp	B/W = 2.4 GHz, P_{O1dB} = −6dBmW @V_{CC} = 2 V
TA4012AFE	ESV	Bipolar linear wideband amp	Communications equipment, UHF amp	B/W = 2.0 GHz, P_{O1dB} = 0dBmW @V_{CC} = 2 V
TA4012FU	USV	Bipolar linear wideband amp	Communications equipment, UHF amp	B/W = 2.0 GHz, P_{O1dB} = 0dBmW @V_{CC} = 2 V
TA4016AFE	ES6	Bipolar linear wideband amp	Communications equipment, UHF amp	B/W = 3.2 GHz Gp = 19dB @f = 1.5 GHz, V_{CC} = 2 V
TA4017FT	TU6	Bipolar differential amp	CATV, IF amp	$\|S_{21}\|^2$ = 13dB, P_{O1dB} = 2dBmW @V_{CC} = 5 V, f = 45 MHz
TA4018F	SM8	Bipolar differential gain control amp	CATV, IF variable amp	$\|S_{21}\|^2$ = 11dB, G_R = 37dB @V_{CC} = 5 V, f = 45 MHz
TA4019F	SM8	Bipolar differential amp	CATV, IF amp	$\|S_{21}\|^2$ = 30dB, IM3 = 53dB @V_{CC} = 5 V, f = 45 MHz, Pin = −35dBmW

Frequency Converters

Part Number	Package	Structure	Applications	Electrical Characteristics (Ta = 25°C)
TA4107F	SM8	Bipolar linear down converter	CATV analog digital tuner	C・Gain = −0.5dB, IIP3 = 12dBmW @f_{RF} = 1 GHz, f_{LO} = 950 MHz, V_{CC} = 4.5 V
TA4303F	SSOP-20	Bipolar linear down converter, Si-MMIC	BS tuner OSC + DBC + IF	C・Gain = 18dB/1.6 GHz, IP3 = 17dBmW V_{CC} = 5 V, I_{CC} = 74 mA

High-Frequency Oscillators (VCO, TCXO)

Part Number	Package	Structure	Applications	Electrical Characteristics (Ta = 25°C)
TA4014FT	TU6	Bipolar linear OSC & buffer	TCXO VCXO	I_{CC} = 1.2 mA @V_{CC} = 3.0 V V_{OSC} = 1.2 Vp-p (reference value)
TA4014FE	ES6	Bipolar linear OSC & buffer	TCXO VCXO	
TA4014FC	CS6	Bipolar linear OSC & buffer	TCXO VCXO	
TA4015FT	TU6	Bipolar linear OSC & buffer	TCXO VCXO	I_{CC} = 1.3 mA @V_{CC} = 3.0 V V_{OSC} = 1.2 Vp-p (reference value)
TA4015FE	ES6	Bipolar linear OSC & buffer	TCXO VCXO	
* TA4203F	QS16	Bipolar linear OSC & buffer & SW	GSM/DCS VCO	I_{CC} = 40 mA @V_{CC} = 2.7 V P_O = +10dBmW
* TA4205FC	CS6	Bipolar linear OSC & buffer	VCO	I_{CC} = 8 mA @V_{CC} = 2.7 V V_{OSC} = 0.63 Vp-p (reference value)

*: New product

High-Frequency Switches

Part Number	Package	Structure	Applications	Electrical Characteristics (Ta = 25°C)
TG2210FT	TU6	GaAs low-power SPDT switch	RF general-purpose SPDT switch, bluetooth	Loss = 0.4dB, ISL = 30dB Pi1dB = 18dBmW (min) @f = 1 GHz, Vc = 0 V/2.5 V
TG2211FT	TU6	GaAs low-power SPDT switch, built-in inverter	RF general-purpose SPDT switch, bluetooth	Loss = 0.55dB, ISL = 17dB Pi1dB = 22dBmW @f = 2.5 GHz, Vc = 0 V/2.7 V
TG2213S	sES6	GaAs low-power SPDT switch, small type	RF general-purpose SPDT switch, bluetooth	Loss = 0.45dB, ISL = 22dB Pi1dB = 17dBmW @f = 2.5 GHz, Vc = 0 V/2.7 V
TG2214S	sES6	GaAs low-power SPDT switch, small type Reverse logic type of TG2213S.	RF general-purpose SPDT switch, bluetooth	Loss = 0.45dB, ISL = 22dB Pi1dB = 17dBmW @f = 2.5 GHz, Vc = 0 V/2.7 V
TG2216TU	UF6	GaAs medium-power SPDT switch	Cellular phone, bluetooth, wireless LAN	Loss = 0.7dB, ISL = 23dB Pi1dB = 28dBmW @f = 2.5 GHz, Vc = 0 V/2.7 V