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TPS27081ADDCR-TP

www.sot23.com.tw

Product Summary

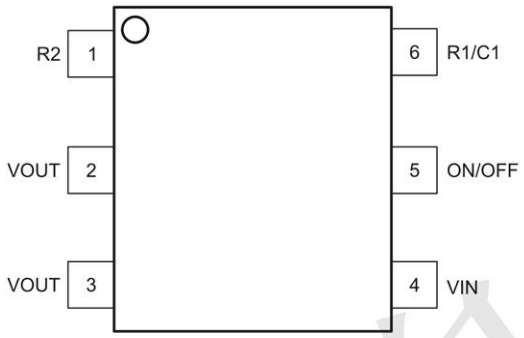
- Extremely Low RDS(on) P-Channel Load Switch MOSFET
- Low Profile, Small Footprint Package
- VIN Range 1.8 to 8.0 V
- ON/OFF Range 1.5 to 8.0 V
- Level Shift MOSFET is ESD Protected
- TPS27081ADDCR PIN to PIN fully compatible

Application

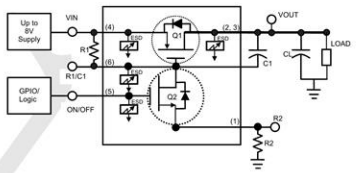
- Battery Packs
- Battery-Powered Portable Equipment
- Cellular and Cordless Telephones

Package and Pin Configuration

SOT23-6 Or TSOP6



Circuit diagram



组件	说明
R1	电平位移器/上拉电阻器
R2	可选(1)
C1	可选(1)

Marking: AUA

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

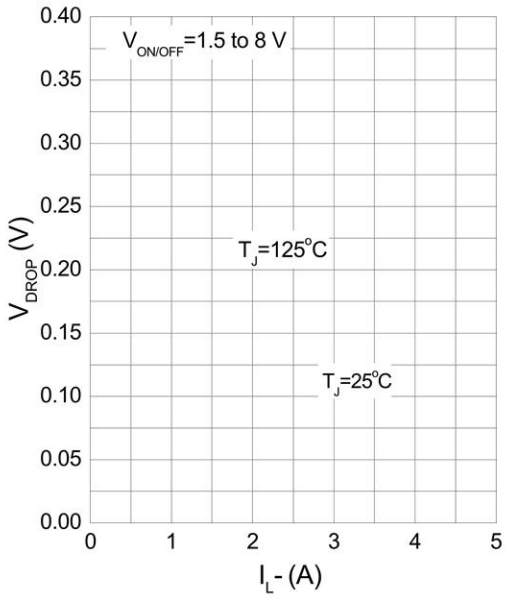
PARAMETER	SYMBOL	Ratings	UNITS
Input Voltage Range	V_{IN}	8	V
On/Off Voltage Range	V_{ON}/V_{OFF}	8	V
Continuous Load Current	IL	3.0	A
Pulsed Load Current	ILM	9.0	A
Continuous intrinsic diode conduction	Is	- 1.0	A
Maximum power dissipation	P_D	1.0	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55~150	°C
ESD, MIL-STD-883D HBM (100pF/1.5kohm) (Von/off pin)	V_{ESD}	2	kV
Typical Junction to Ambient(Note 2)	$R_{\theta JA}$	250	°C/W

Electrical Characteristics (T_A = 25°C unless otherwise noted)

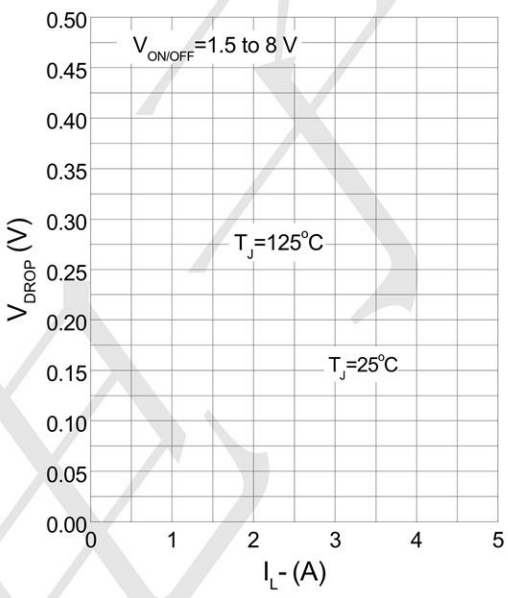
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Off Characteristics						
Q1 Drain-to- Source Breakdown Voltage	Vin	VGS2=0V, ID2 = -250 uA			-8	V
Leakage Current	I_{FL}	VGS1=0V, VDS2 =-8V	-	-	1	uA
Q1 Gate-to-Source Leakage Current	I_{GSS}	VDS1=0V , Vgs1= 8V	-	-	1	uA
Q1 Diode Forward Voltage	V_{SD}	I_S=-0.4A VDS1=0V		-0.8	-1.1	V
On Characteristics						
Input voltage range	$V_{ON/OFF}$		1.5			V
Q1 Gate Threshold Voltage	Vgs(th)	VGS1 = Vds1, ID = -250 uA	0.4		1.0	V
Input Voltage	Vin	VGS1 = Vds1, ID = -250 uA	1.8		8	V
Drain-Source On-State Resistance (Q2)	$R_{DS(on)}$	VON/OFF = 1.8 V, VIN = 4.5 V, ID = 1.0A		45	55	mΩ
		VON/OFF = 1.8 V, VIN = 2.5 V, ID = 1 A		60	65	
		VON/OFF = 1.8 V, VIN = 1.8 V, ID = 1A		80	150	
Load Current	IL	Vdrop≤ 0.2V,Vin=5.0,Von/oFF=1.5V	1.0	-		A
		Vdrop≤ 0.3V,Vin=2.5,Von/oFF=1.5V	1.0	-		

Typical Operating Characteristics

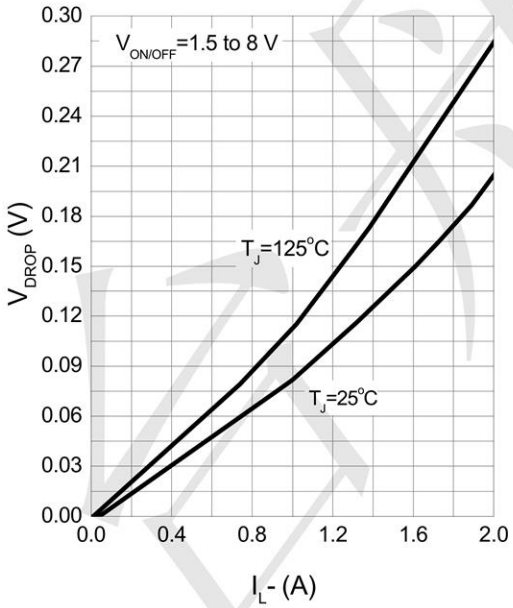
V_{DROP} vs. I_L @ V_{IN} =4.5 V



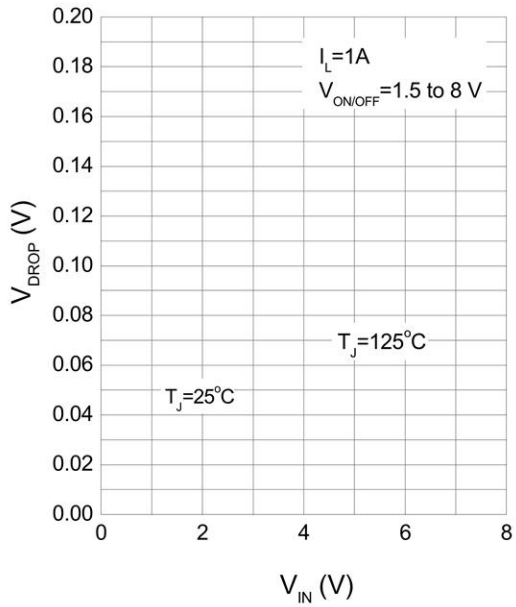
V_{DROP} vs. I_L @ V_{IN} =2.5 V



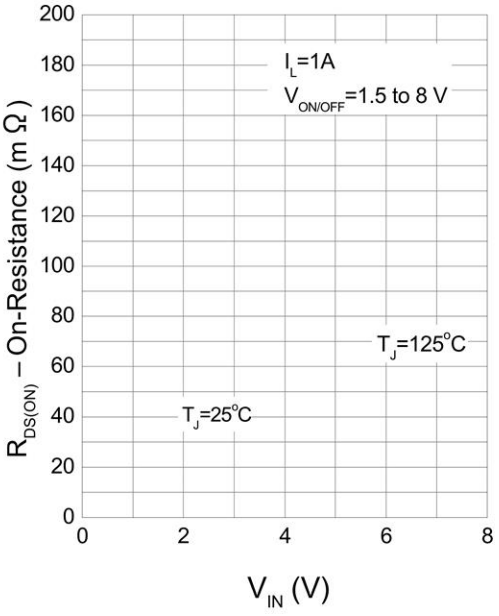
V_{DROP} vs. I_L @ V_{IN} =1.8 V



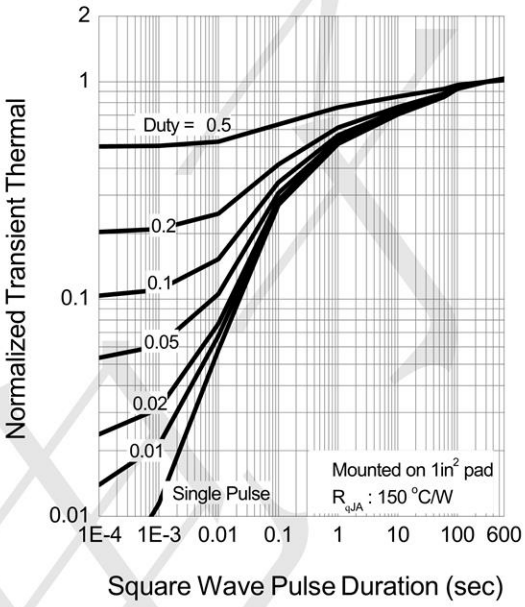
V_{DROP} vs. V_{IN} @ I_L =1 A



On-Resistance vs. Input Voltage

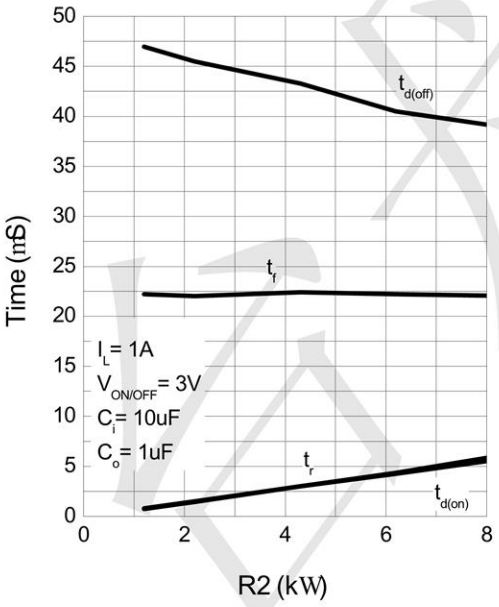


Thermal Transient Impedance



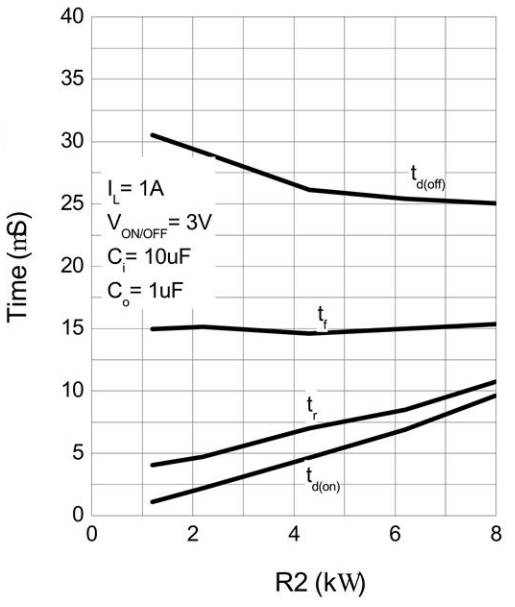
Switching Variation

R2 @ V_{IN}=4.5 V, R1 = 20 kΩ



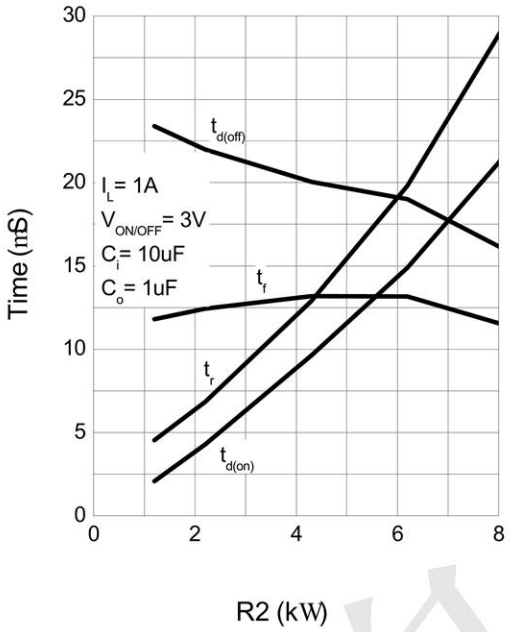
Switching Variation

R2 @ V_{IN}=2.5 V, R1 = 20 kΩ



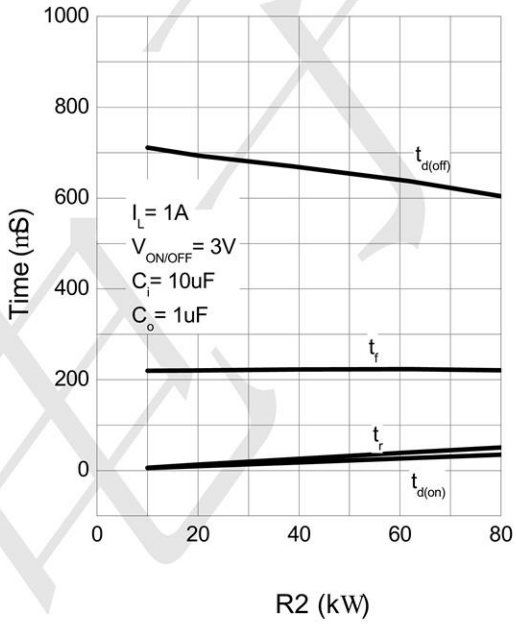
Switching Variation

R2 @ V_{IN} =1.8 V, R1 = 20 kΩ



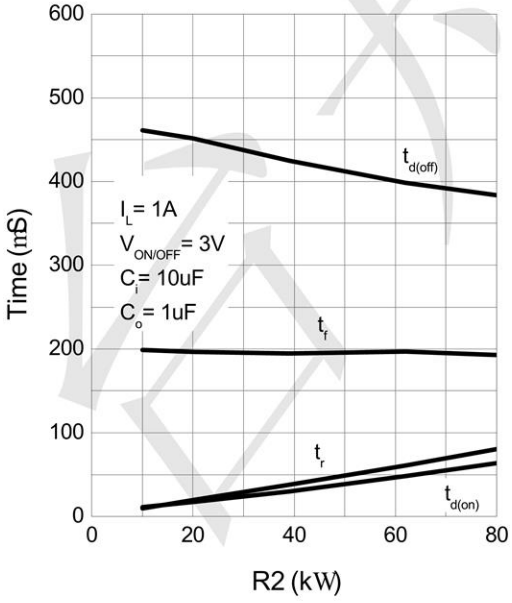
Switching Variation

R2 @ V_{IN} =4.5 V, R1 = 300 kΩ



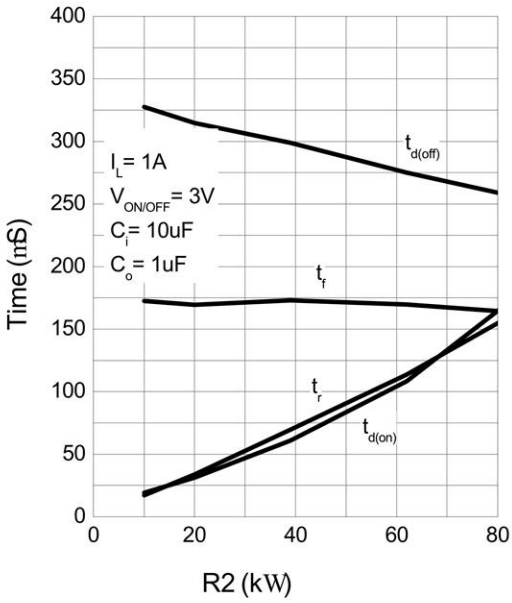
Switching Variation

R2 @ V_{IN} =2.5 V, R1 = 300 kΩ

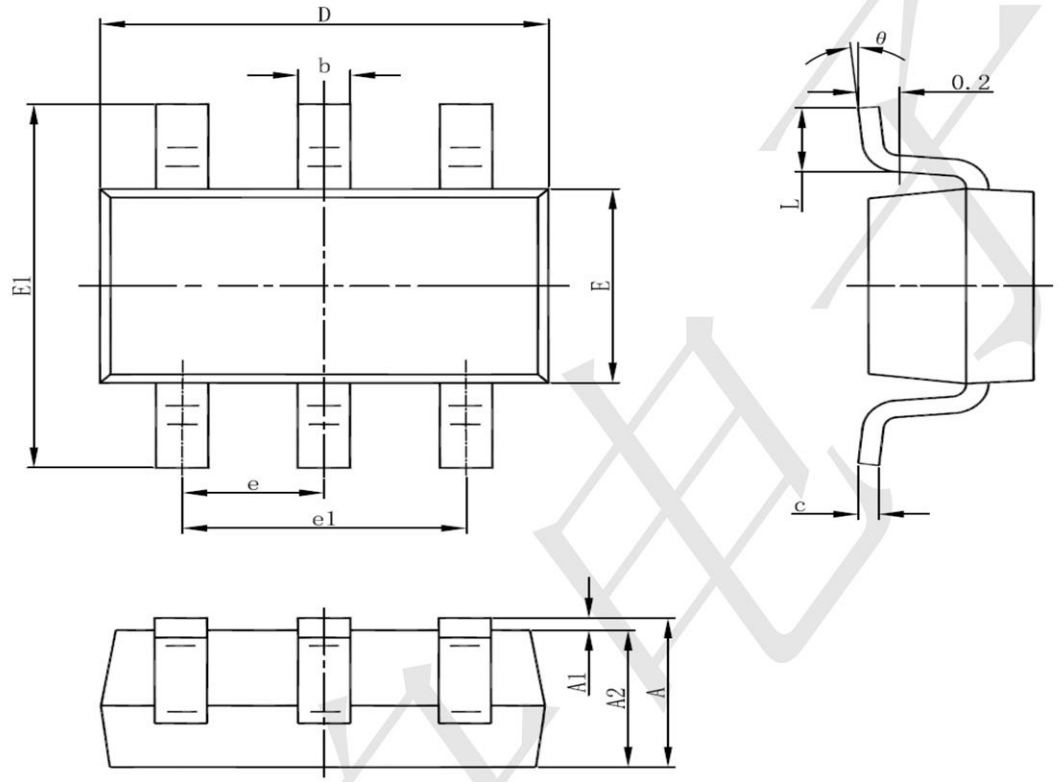


Switching Variation

R2 @ V_{IN} =1.8 V, R1 = 300 kΩ



SOT23-6 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°