

isc Silicon NPN Power Transistor

MD1803DFX

DESCRIPTION

- High Voltage
- Low base-drive requirements
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 700V$ (Min)

APPLICATIONS

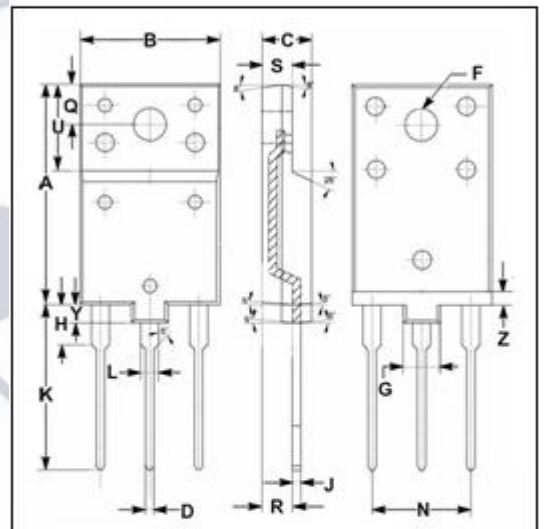
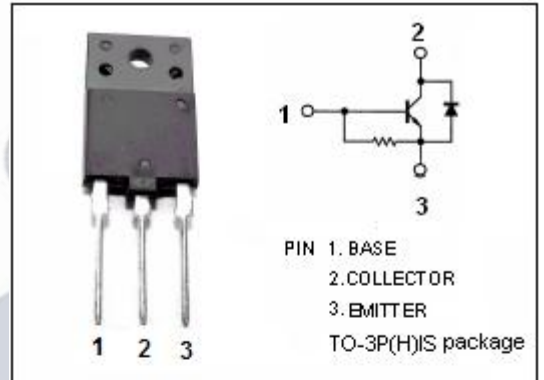
- Horizontal deflection output for TV

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current- Continuous	10	A
I_{CM}	Collector peak current ($t_p < 5ms$)	15	A
I_B	Base Current- Continuous	5	A
P_{TOT}	Total dissipation at $T_C=25^\circ C$	57	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.2	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	24.30	24.70
B	15.20	15.80
C	5.20	5.80
D	0.65	0.85
F	3.30	3.90
G	3.90	4.10
H	4.30	4.70
J	0.80	1.00
K	18.30	18.70
L	1.90	2.10
N	10.70	11.10
Q	4.40	4.60
R	3.30	3.70
S	3.20	3.40
U	9.50	9.70
Y	1.90	2.10
Z	1.40	1.60

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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)EBO}$	Collector-base breakdown Voltage	$I_C=200\text{mA}; I_E=0$	10			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5.0\text{A}; I_B=1.25\text{A}$			2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5.0\text{A}; I_B=1.25\text{A}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=1500\text{V}; I_E=0$ $V_{CB}=1500\text{V}; I_E=0, T_C=125$			0.2 2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$	40		120	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$		18		
h_{FE-2}	DC Current Gain	$I_C=5\text{A}; V_{CE}=1\text{V}$		5		
h_{FE-3}	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	5.5			
V_f	Diode forward voltage	$I_F=5\text{A}$			1.6	v
Switching times						
t_s	Inductive load Storage Time	$I_{CP}=4\text{A}, I_{B(on)}=0.6\text{A};$ $f_H=16\text{kHz}, V_{BE(off)}=-2.7\text{V},$ $L_{BB(off)}=4.5\mu\text{H}$		2.5	3	μs
t_f	Fall Time			0.3	0.6	μs

1. Pulsed duration =300us,duty cycle $\leq 1.5\%$