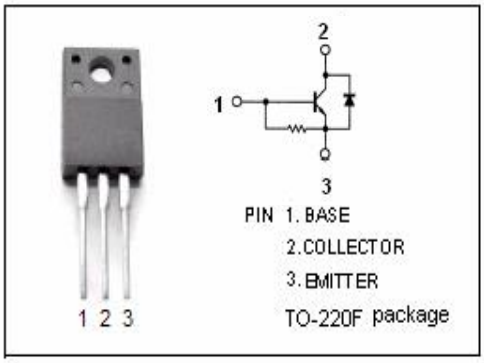
isc Silicon NPN Power Transistor — MD1803DFP

DESCRIPTION

- Low base-drive requirements
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 700V (Min)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

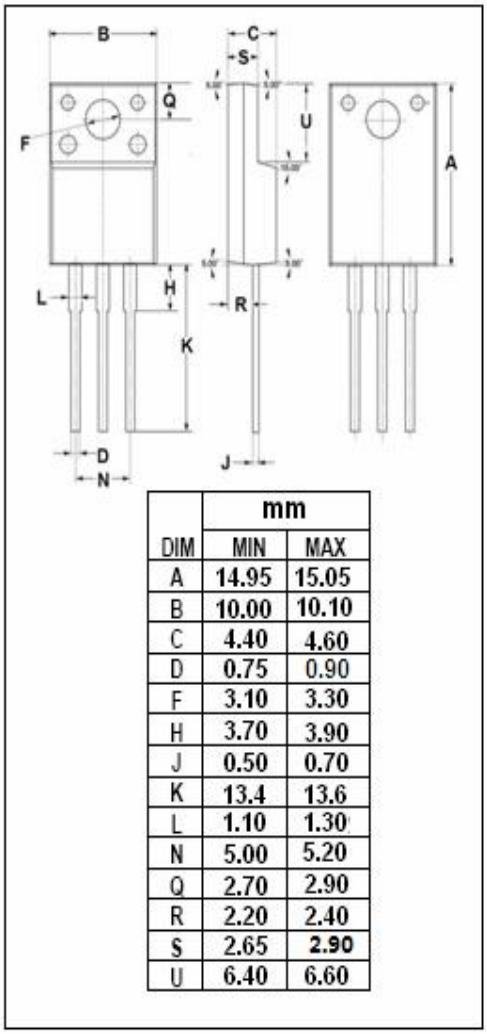


APPLICATIONS

- Horizontal deflection output for TV

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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 (tp<5ms)	15	A
I_B	Base Current- Continuous	5	A
P_{TOT}	Total dissipation at T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



DIM	mm MIN	mm MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	3.125	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)EBO}$	Eollector-base breakdown Voltage	I_C= 700mA; I_C= 0	10			V
$V_{CE(sat)}$(1)	Collector-Emitter Saturation Voltage	I_C= 5.0A; I_B=1.25A			2	V
$V_{BE(sat)}$(1)	Base-Emitter Saturation Voltage	I_C= 5.0A; I_B=1.25A			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 1500V ; I_E= 0 V_{CB}= 1500V ; I_E= 0 ,TC=125			0.2 2	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V ; I_C= 0	40		120	mA
h_{FE-1} (1)	DC Current Gain	I_C= 1A ; V_{CE}= 5V		18		
h_{FE-2}(1)	DC Current Gain	I_C= 5A ; V_{CE}= 1V		5		
h_{FE-3}(1)	DC Current Gain	I_C= 5A ; V_{CE}= 5V	5.5		7.5	
V_f	Diode forward voltage	I_F= 5A			1.6	v

Switching times

t_s	Inductive load Storage Time	I_{CP}= 4A , $I_{B(on))}$= 0.6A ; f_H= 16kHz $V_{BE(Off)}$=-2.7V, $L_{BB(OFF)}$=4.5uH		2.5	3	μs
t_f	Fall Time			0.3	0.6	μs

1. Pulsed duration =300us,duty cycle ≤1.5%

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