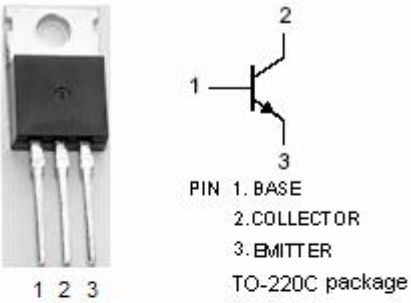
isc Silicon NPN Power Transistor — MJE53T



DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 350V(Min)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

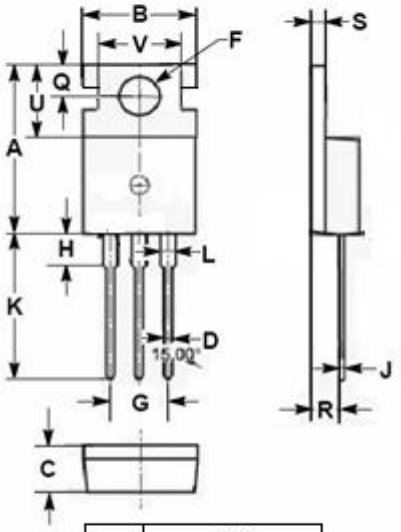
- Designed for high voltage inverters, switching regulators and line operated amplifier applications. Especially well suited for switching power supply applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CEO}	Collector-Emitter Voltage	350	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ T_C=25℃	80	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.56	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 25mA; I_B= 0	350			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 2A			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 5A ; V_{CE}= 10V			2.0	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 250V; I_B=0			1.0	mA
I_{CBO}	Collector Cutoff Current	V_{CB}= 450V; I_E= 0			1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C=0			1.0	mA
h_{FE-1}	DC Current Gain	I_C= 0.3A ; V_{CE}= 10V	30			
h_{FE-2}	DC Current Gain	I_C= 5A ; V_{CE}= 10V	5			
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V; f_{test}=0.1MHz		150		pF
Switching times						
t_{on}	Turn-On Time	I_C= 2.5A , I_{B1}= -I_{B2}= 0.5A $V_{BE(off)}$= 5V; V_{CC}= 125V		0.5		μs
t_{off}	Turn-Off Time			2.0		μs

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