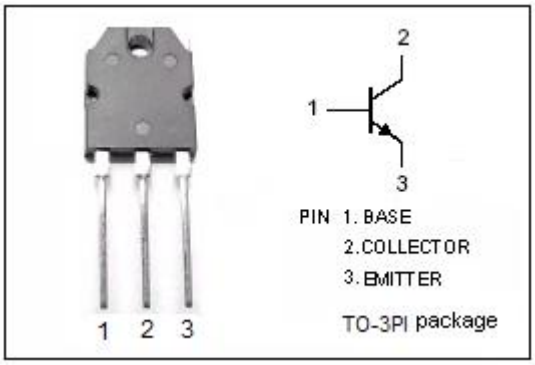
isc Silicon NPN Power Transistor — 2SC3783

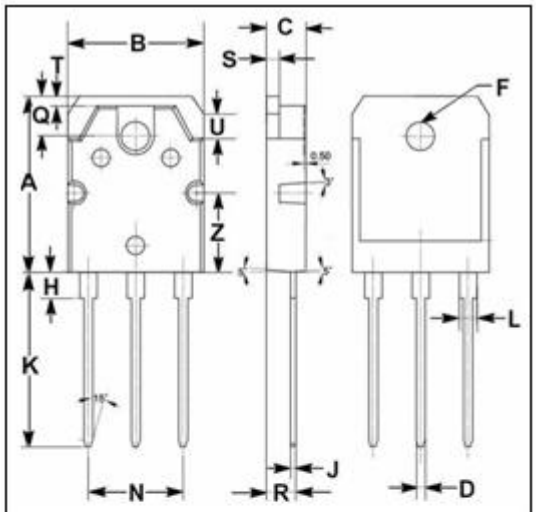


DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 800V(Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High speed and high voltage switching applications.
- Switching regulator applications.
- High speed DC-DC converter applications.



DIM	mm MIN	mm MAX
A	19.90	20.10
B	15.50	15.70
C	4.40	4.60
D	0.90	1.10
F	3.20	3.40
H	2.90	3.10
J	0.50	0.70
K	19.90	20.10
L	1.90	2.10
N	10.80	11.00
Q	4.40	4.60
R	3.30	3.35
S	1.40	1.60
T	1.00	1.20
U	2.10	2.30
Z	8.90	9.10

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Pulse	7	A
I_B	Base Current-Continuous	3	A
P_C	Collector Power Dissipation @ T_C=25℃	100	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA; I_B= 0	800			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA; I_E= 0	900			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 800V; I_E= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			1.0	mA
h_{FE-1}	DC Current Gain	I_C= 10mA; V_{CE}= 5V	10			
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 5V	10			
Switching times						
t_{on}	Turn-on Time	$V_{CC}\approx$ 400V, I_{B1}= 0.3A; I_{B2}= -0.8A R_L= 133Ω ;P_W=20μs; Duty Cycle≤1%			1.0	μs
t_{stg}	Storage Time				3.5	μs
t_f	Fall Time				1.0	μs

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