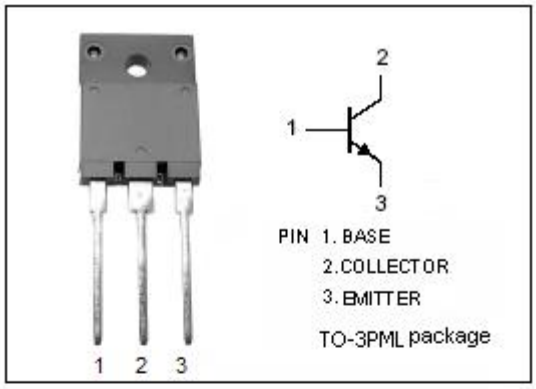
isc Silicon NPN Power Transistor — 2SC4538R

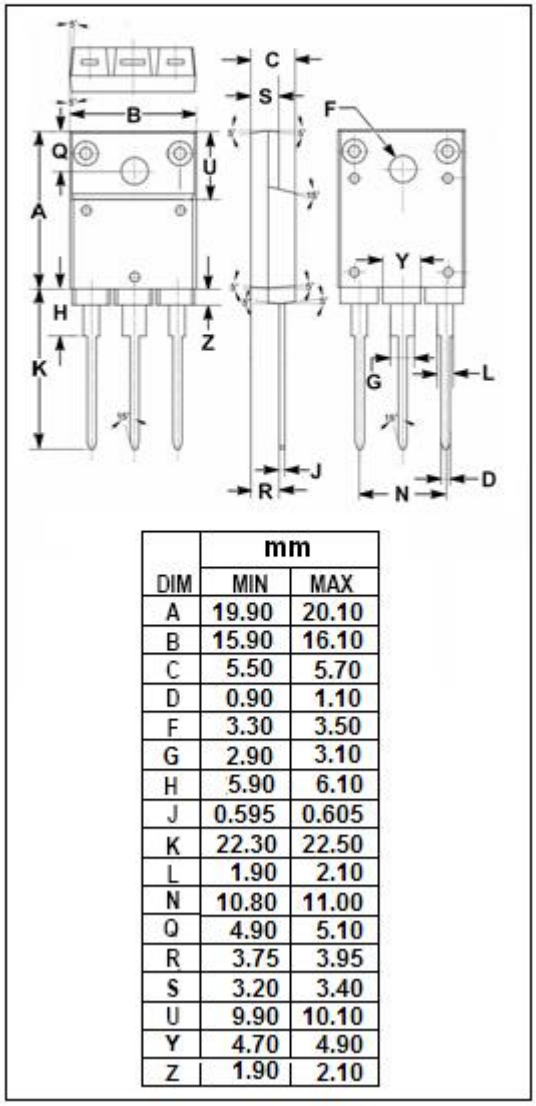
DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 800V(Min.)
- High Switching Speed
- High Reliability
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers



DIM	mm MIN	MAX
A	19.90	20.10
B	15.90	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.10
H	5.90	6.10
J	0.595	0.605
K	22.30	22.50
L	1.90	2.10
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.40
U	9.90	10.10
Y	4.70	4.90
Z	1.90	2.10

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	10	V
I_C	Collector Current-Continuous	5	A
I_B	Base Current-Continuous	3	A
P_C	Collector Power Dissipation @ T_C=25℃	80	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.5	℃/W

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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
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA; I_C= 0	10			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 0.4A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 0.4A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 900V; I_E= 0			1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 10V; I_C= 0			1.0	mA
h_{FE}	DC Current Gain	I_C= 2A; V_{CE}= 5V	10			
Switching times						
t_{on}	Turn-on Time	I_C= 3A, I_{B1}= 0.6A; I_{B2}= -1.2A; R_L= 100Ω; P_W= 20μs; Duty Cycle≤2%			1.0	μs
t_{stg}	Storage Time				4.0	μs
t_f	Fall Time				0.8	μs