

Silicon NPN Power Transistor

2SC4557

DESCRIPTION

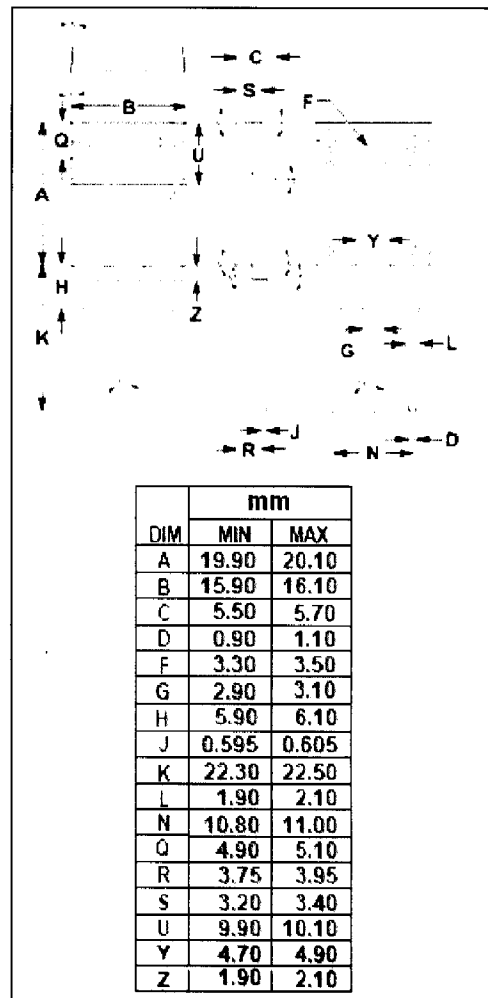
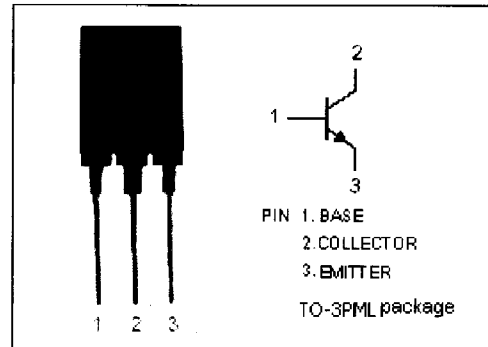
- High Collector-Emitter Breakdown Voltage-
 $V_{(BR)CEO} = 550V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation

APPLICATIONS

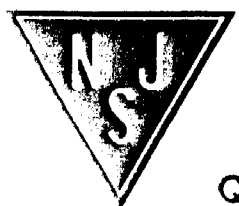
- Designed for switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	550	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55-150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_B=0$	550			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=800\text{V}; I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			100	μA
h_{FE}	DC Current Gain	$I_C=5\text{A}; V_{CE}=4\text{V}$	10		28	
f_T	Current-Gain—Bandwidth Product	$I_E=-1\text{A}; V_{CE}=12\text{V}$		6		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		105		pF

Switching Times

t_{on}	Turn-on Time	$I_C=5\text{A}; I_{B1}=0.75\text{A}; I_{B2}=-1.5\text{A}; R_L=50\Omega; V_{CC}=250\text{V}$			1.0	μs
t_{stg}	Storage Time				5.0	μs
t_f	Fall Time				0.5	μs