

Silicon NPN Power Transistor

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$
- Fast Switching speed

APPLICATIONS

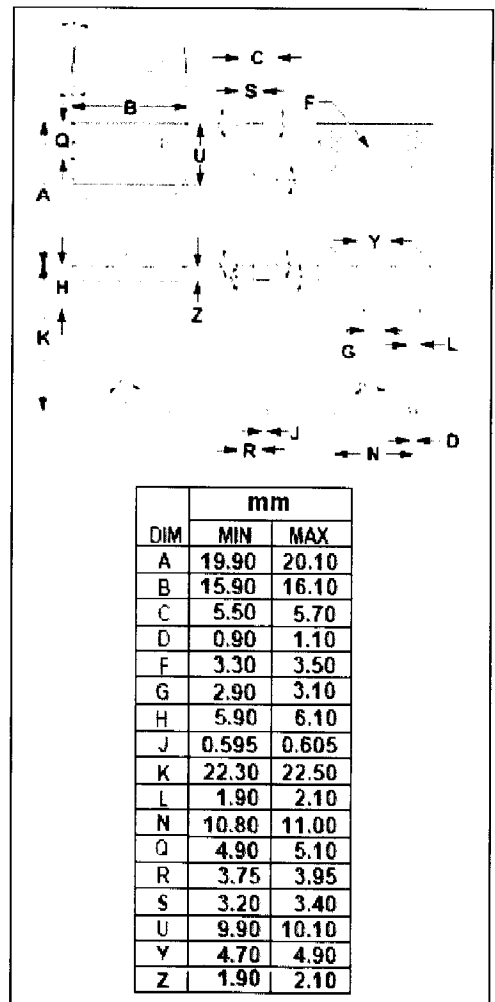
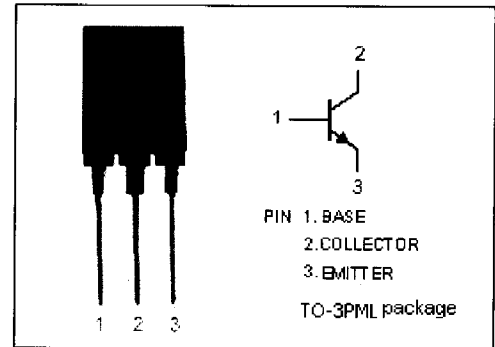
- Designed for power switching applications.

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

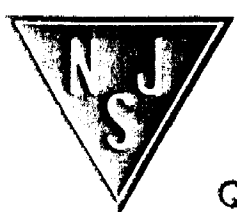
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{CEX}	Collector-Emitter Voltage $V_{EB}=5V$	600	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	6	A
I_{BM}	Base Current-Peak	12	A
P_T	Total Power Dissipation @ $T_c=25^\circ\text{C}$	75	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C/W}$



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2SC4582

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0$	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=7.5\text{A}; I_B=1.5\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=7.5\text{A}; I_B=1.5\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	At rated Voltage			100	μA
I_{CEO}	Collector Cutoff Current	At rated Voltage			100	μA
I_{EBO}	Emitter Cutoff Current	At rated Voltage			100	μA
h_{FE-1}	DC Current Gain	$I_C=7.5\text{A}; V_{CE}=5\text{V}$	10			
h_{FE-2}	DC Current Gain	$I_C=1\text{mA}; V_{CE}=5\text{V}$	5			
f_T	Current-Gain—Bandwidth Product	$I_C=1.5\text{A}; V_{CE}=10\text{V}$		20		MHz

Switching times

t_{on}	Turn-on Time	$I_C=7.5\text{A}; I_{B1}=1.5\text{A}; I_{B2}=-3\text{A}; R_L=20\Omega; V_{BB2}=4\text{V}$			0.5	μs
t_{stg}	Storage Time				2.0	μs
t_f	Fall Time				0.2	μs