

isc Silicon PNP Power Transistor
2SB1507
DESCRIPTION

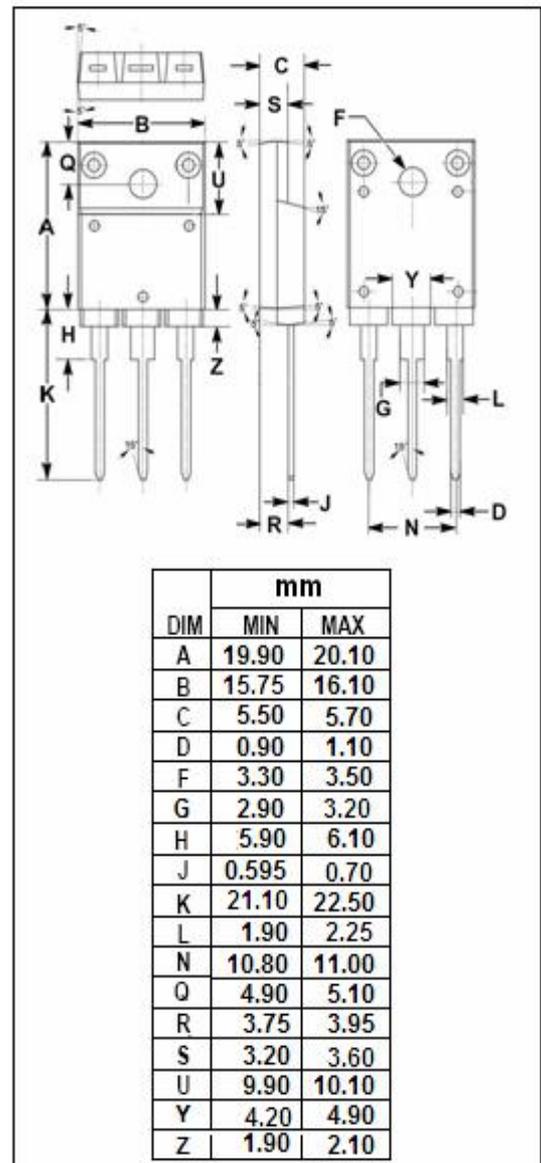
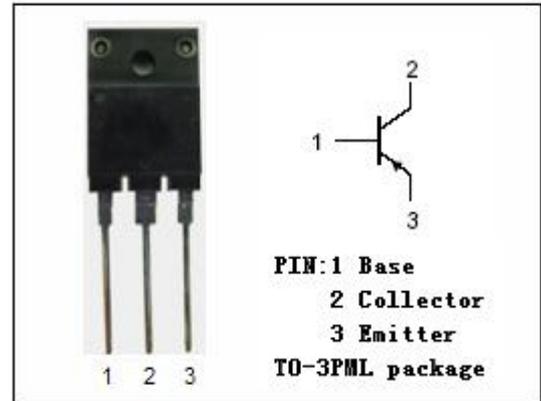
- Low Collector Saturation Voltage
: $V_{CE(sat)} = -0.4(V)(Max) @ I_C = -4A$
- Good Linearity of h_{FE}
- Wide Area of Safe Operation
- Complement to Type 2SD2280
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for relay drivers, high-speed inverters, converters.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current-Continuous	-7	A
I_{CM}	Collector Current-Peak	-20	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ C$	3	W
	Collector Power Dissipation @ $T_c = 25^\circ C$	40	
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



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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	$I_C = -1\text{mA}; R_{BE} = \infty$	-50			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -1\text{mA}; I_E = 0$	-60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1\text{mA}; I_C = 0$	-6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -4\text{A}; I_B = -0.4\text{A}$			-0.4	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -40\text{V}; I_E = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -4\text{V}; I_C = 0$			-100	μA
h_{FE-1}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -2\text{V}$	70		280	
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -2\text{V}$	30			
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}; V_{CE} = -5\text{V}$		10		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -2\text{A}; R_L = 10\ \Omega,$ $I_{B1} = -I_{B2} = -0.2\text{A}, V_{CC} = -20\text{V}$		0.2		μs
t_{stg}	Storage Time			0.7		μs
t_f	Fall Time			0.1		μs

◆ h_{FE-1} Classifications

Q	R	S
70-140	100-200	140-280

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