

isc Silicon NPN Power Transistor

2SC2507

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$
- Fast Switching Speed
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 0.7V(\text{Max.}) @ I_C = 10A$

APPLICATIONS

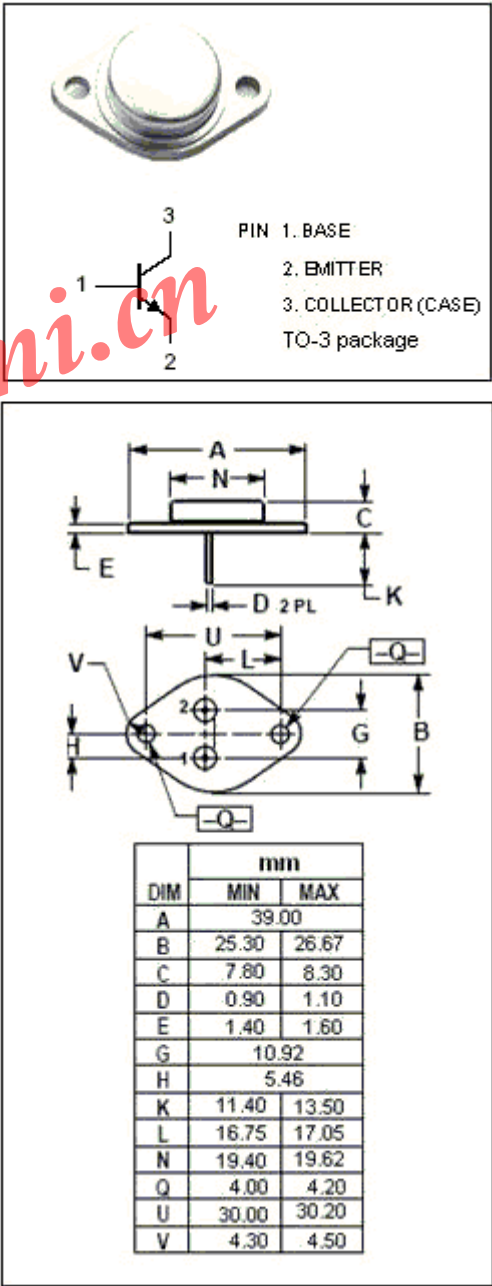
- Designed for use in high-voltage, high-speed, power switching in inductive circuit, they are particularly suited for 115 and 220V switchmode applications such as switching regulator's, inverters.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	40	A
I_B	Base Current-Continuous	7	A
I_{BM}	Base Current-Peak	14	A
P_C	Collector Power Dissipation @ $T_C = 25^{\circ}C$	200	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.625	$^{\circ}C/W$



isc Silicon NPN Power Transistor**2SC2507****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 0.2\text{A}; I_B = 0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 1\text{A}$			0.7	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 1\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 500\text{V}; I_E = 0$			100	μA
I_{CEO}	Collector Cutoff Current	$V_{CE} = 320\text{V}; I_B = 0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 7\text{V}; I_C = 0$			1.0	mA
h_{FE-1}	DC Current Gain	$I_C = 10\text{A}; V_{CE} = 2\text{V}$	15			
h_{FE-2}	DC Current Gain	$I_C = 20\text{A}; V_{CE} = 2\text{V}$	8			
f_T	Current-Gain—Bandwidth Product	$I_C = 1\text{A}; V_{CE} = 10\text{V}$		20		MHz

Switching times

t_{on}	Turn-on Time	$I_C = 10\text{A}; I_{B1} = -I_{B2} = 2\text{A}$ $R_L = 3\Omega; V_{BB2} = 4\text{V}$			1.0	μs
t_{stg}	Storage Time				3.0	μs
t_f	Fall Time				0.7	μs