

isc Silicon NPN Power Transistor
BUY57
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 125V(\text{Min.})$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.3V @ I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

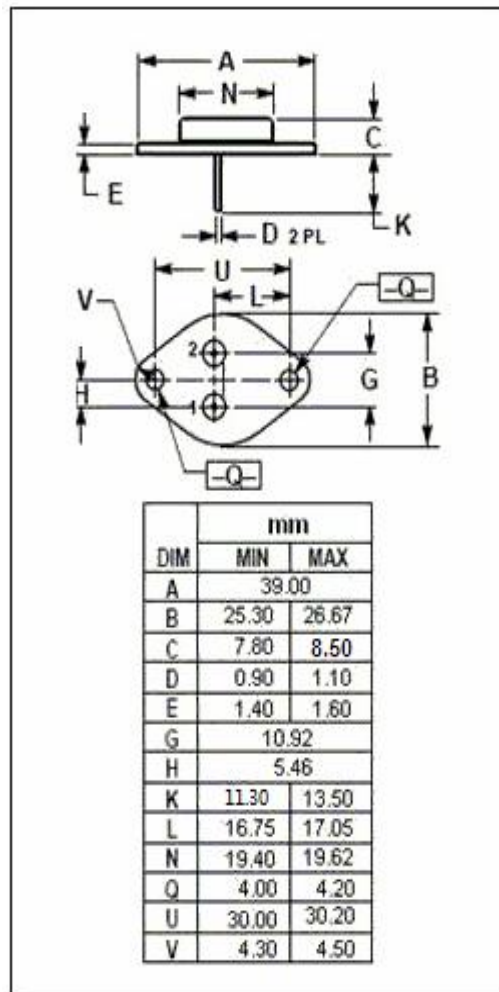
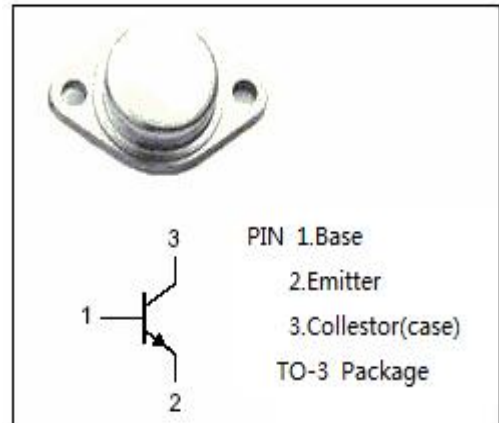
- Designed for general switching applications at higher outputs.

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

SYMBOL	PARAMETER	MAX	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CES}	Collector-Emitter Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	125	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	25	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @ $T_c \leq 25^\circ\text{C}$	117	W
T_j	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.28	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 50mA; I _B = 0	125			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 10A; I _B = 1.25A			1.3	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 10A; I _B = 1.25A			1.5	V
V _{BE(on)-1}	Base-Emitter On Voltage	I _C = 10A; V _{CE} = 1.5V			1.5	V
V _{BE(on)-2}	Base-Emitter On Voltage	I _C = 12A; V _{CE} = 1.5V			1.7	V
V _{BE(on)-2}	Base-Emitter On Voltage	I _C = 1A; V _{CE} = 1.5V			1.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 150V; I _E = 0 V _{CB} = 150V; I _E = 0; T _c = 125°C			1.0 10	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C = 0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 1.5V	20			
h _{FE-2}	DC Current Gain	I _C = 10A; V _{CE} = 1.5V	12			
h _{FE-3}	DC Current Gain	I _C = 12A; V _{CE} = 1.5V	10			

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