

isc Silicon NPN Power Transistor

BUY30

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 250V(\text{Min.})$
- Excellent Safe Operating Area
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

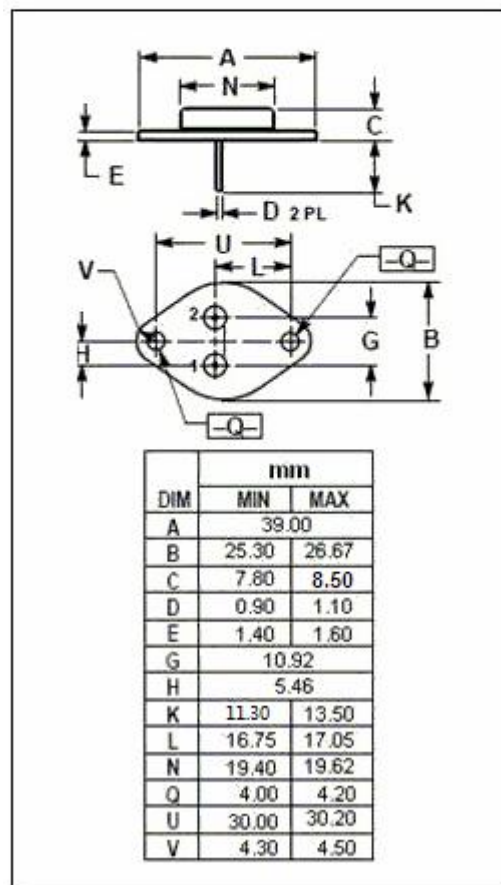
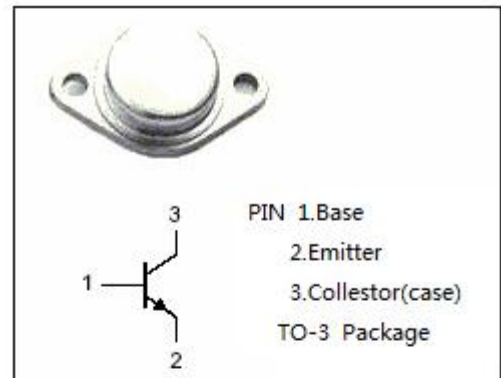
- Designed for use in switching-control amplifiers, power gates, switching regulators, converters, and inverter.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	250	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	12	A
I_B	Base Current-Continuous	2	A
P_T	Total Power Dissipation @ $T_C \leq 25^\circ\text{C}$	125	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	1.17	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BUY30****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA ; I _B = 0	250			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 1.2A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6A; I _B = 1.2A			2.0	V
V _{BE(on)}	Base-Emitter Saturation Voltage	I _C = 6A; V _{CE} = 3V			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} =300V; I _E =0			0.1	mA
I _{EBO}	Emitter Cutoff current	V _{EB} =6V; I _C =0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 1A ; V _{CE} = 5V	60			
h _{FE-2}	DC Current Gain	I _C = 3A ; V _{CE} = 5V	15			
h _{FE-3}	DC Current Gain	I _C = 8A ; V _{CE} = 5V	10			

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