

isc Silicon NPN Power Transistors
BUY77
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 250V(\text{Min.})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.4V(\text{Max.}) @ I_C = 5A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

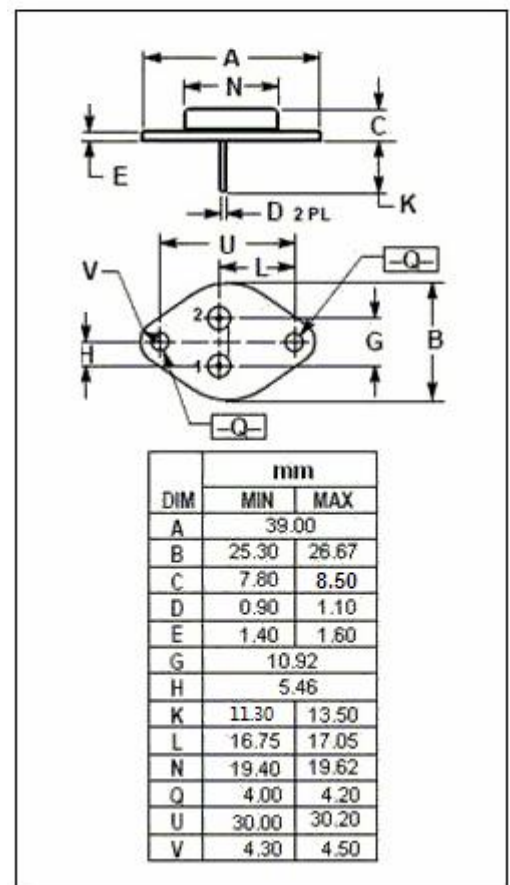
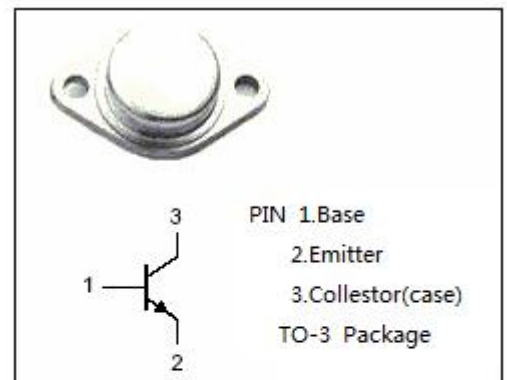
- Designed for use as high-speed power switches at high voltages.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
V_{CES}	Collector-Emitter Voltage	400	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	10	A
P_C	Collector Power Dissipation @ $T_c \leq 75^\circ\text{C}$	60	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	1.66	$^\circ\text{C}/\text{W}$



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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	250			V
V _{(BR)CES}	Collector-Emitter Breakdown Voltage	I _C = 1mA; I _E = 0	400			V
V _{(BR)CEV}	Collector-Emitter Breakdown Voltage	I _C = 1mA; V _{BE} = -3.5V	400			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 1.25A			1.4	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 1.25A			1.7	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 400V; I _E = 0			1.0	mA
h _{FE}	DC Current Gain	I _C = 5A; V _{CE} = 1.5V	5			
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 10V		15		MHz
t _f	Fall Time	I _C = 3A; I _{B1} = -I _{B2} = 0.6A			1.0	μs

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