

**isc Silicon NPN Power Transistor**
**BUY56**
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 160V(\text{Min.})$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 1.5V @ I_C = 7A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

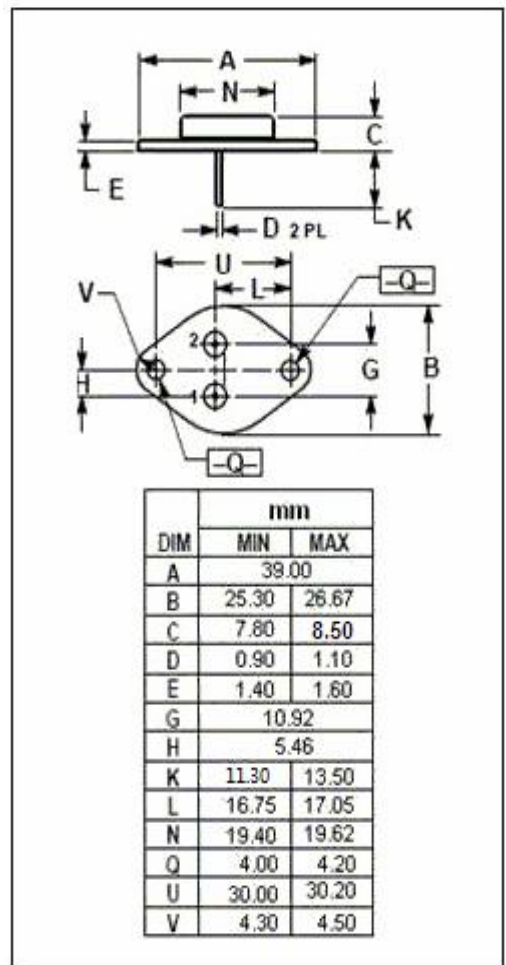
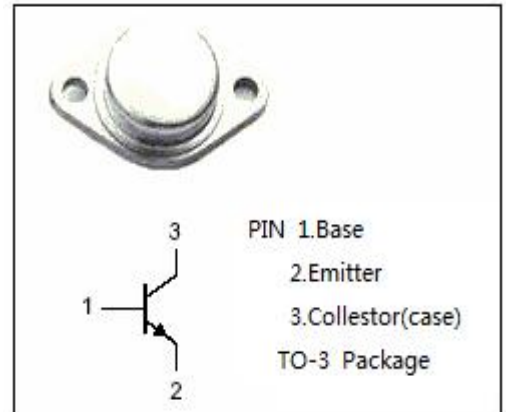
- Designed for general switching applications at higher outputs.

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

SYMBOL	PARAMETER	MAX	UNIT
$V_{CBO}$	Collector-Base Voltage	250	V
$V_{CES}$	Collector-Emitter Voltage	250	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	10	A
$I_{CM}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	2	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	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 20mA; I <sub>B</sub> = 0	160			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	250			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 0.875A			1.5	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 7A; V <sub>CE</sub> = 1.5V			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 250V; I <sub>E</sub> = 0 V <sub>CB</sub> = 250V; I <sub>E</sub> = 0; T <sub>C</sub> = 150°C			1.0 10	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 1.5V	25		160	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 7A; V <sub>CE</sub> = 1.5V	8			

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