

**isc Silicon NPN Power Transistor**
**BUY87**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 150V(\text{Min})$
- High Switching Speed
- Excellent Safe Operating Area
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

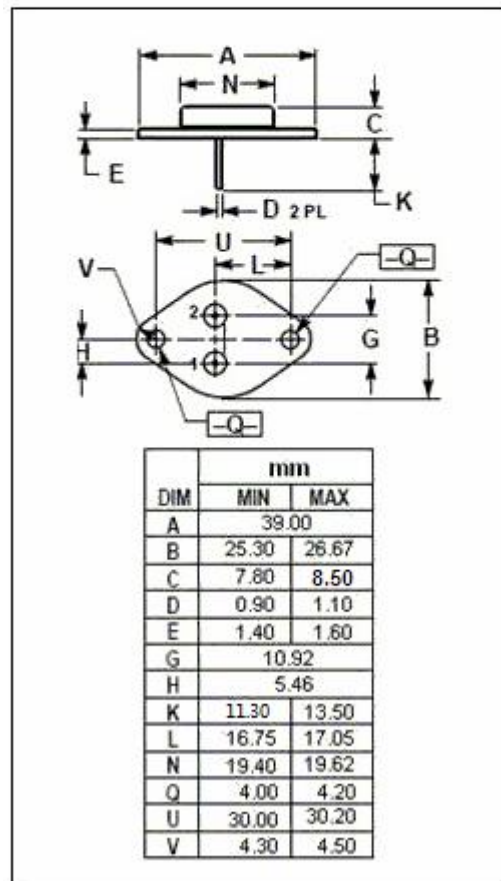
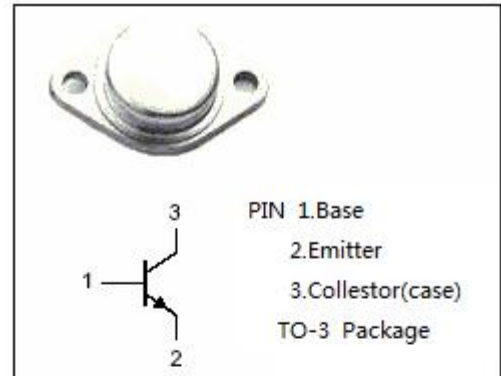
- Designed for use in converters, inverters, switching regulators and switching control amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	300	V
$V_{CES}$	Collector-Emitter Voltage $V_{BE}=0$	300	V
$V_{CEO}$	Collector-Emitter Voltage	150	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_c$	Collector Current-Continuous	7	A
$I_{CM}$	Collector Current-Peak	12	A
$P_c$	Collector Power Dissipation @ $T_c=50^\circ\text{C}$	50	W
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~200	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.8	$^\circ\text{C/W}$



**ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	150			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			0.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=0.7\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=0.7\text{A}$			1.6	V
$I_{CBO}$	Collector-Base Cutoff Current	$V_{CB}=V_{CBO}; I_E=0$ $V_{CB}=V_{CBO}; I_E=0; T_J=150^\circ\text{C}$			0.5 2	mA
$I_{EBO}$	Emitter Cutoff current	$V_{EB}=6\text{V}; I_C=0$			0.1	mA
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	60		200	
$h_{FE-2}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=5\text{V}$	20			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=5\text{V}; f_{test}=5\text{MHz}$		50		MHz

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