

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistor

BUW87

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 150V(\text{Min})$
- High Switching Speed

APPLICATIONS

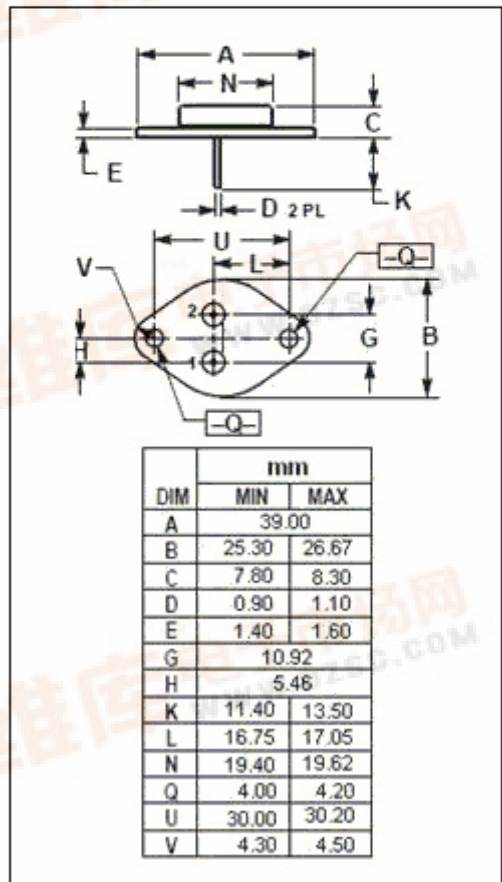
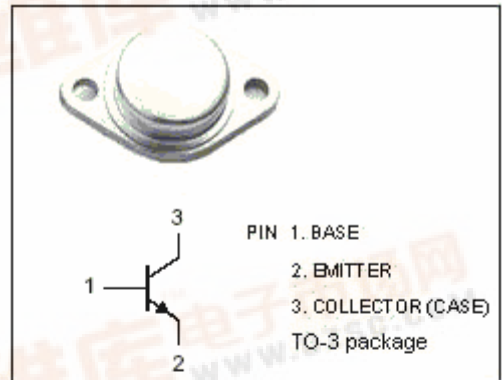
- Designed for use in converters, inverters, switching regulators and switching control amplifiers.

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	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	3	A
I_E	Emitter Current-Continuous	11	A
I_{EM}	Emitter Current-Peak	15	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	62.5	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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	150			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=0.7\text{A}$			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			0.65	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=7\text{A}; I_B=0.7\text{A}$			1.6	V
I_{CES}	Collector Cutoff Current	$V_{CE}=V_{CBO}; V_{BE}=0$ $V_{CE}=V_{CBO}; V_{BE}=0; T_J=150^\circ\text{C}$			1 2	mA
h_{FE}	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

Switching Times; Resistive Load

t_{on}	Turn-On Time	$I_C=7\text{A}; I_{B1}=-I_{B2}=0.7\text{A}; V_{CC}=75\text{V}$		0.25	0.4	μs
t_s	Storage Time			0.7	1.3	μs
t_f	Fall Time			0.15	0.3	μs