

isc Silicon NPN Power Transistor

BUS133H

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V$ (Min)

APPLICATIONS

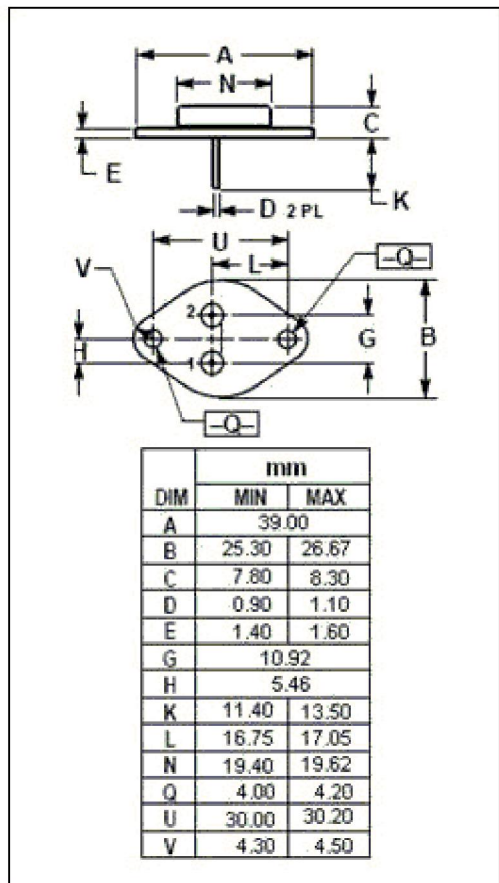
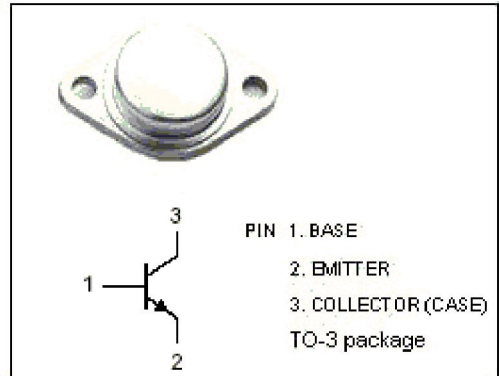
- Designed for use in very fast switching applications in inductive circuits.

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

SYMBOL	PARAMETER	MAX	UNIT
V_{CES}	Collector- Emitter Voltage ($V_{BE} = 0$)	850	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current	10	A
I_{BM}	Base Current-Peak	15	A
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	175	W
T_j	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ C/W$



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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	$I_C=0.1\text{A}; I_B=0; L=10\text{mH}$	450			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			1.5	V
I_{CEV}	Collector Cutoff Current	$V_{CE}=V_{CESMmax}; V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CESMmax}; V_{BE}=-1.5\text{V}; T_J=100^{\circ}\text{C}$			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=15\text{A}; V_{CE}=5\text{V}$	7			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{kHz}$			400	pF

Switching Times , Resistive Load

t_{on}	Turn-On Time	$I_C=10\text{A}; I_{B1}=1\text{A}; I_{B2}=-2\text{A}$		0.4		μs
t_{stg}	Storage Time			1.3		μs
t_f	Fall Time			0.15		μs