

**isc Silicon NPN Power Transistor**

**BUS131H**

**DESCRIPTION**

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

**APPLICATIONS**

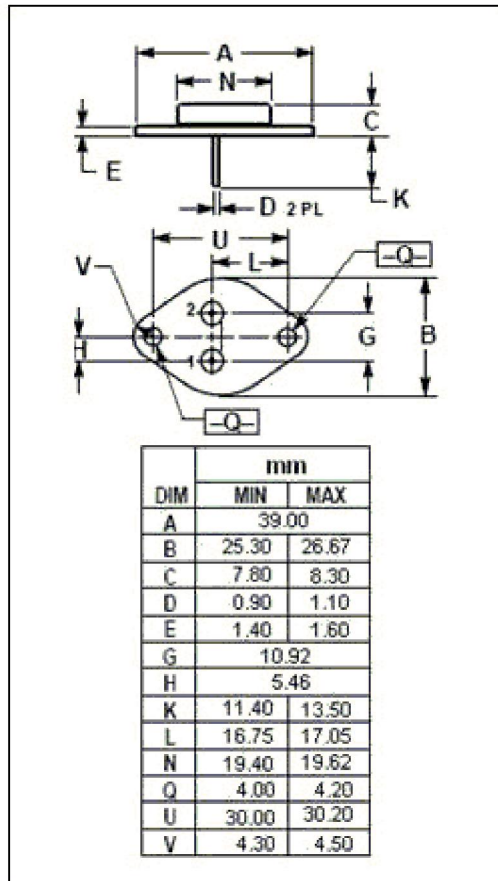
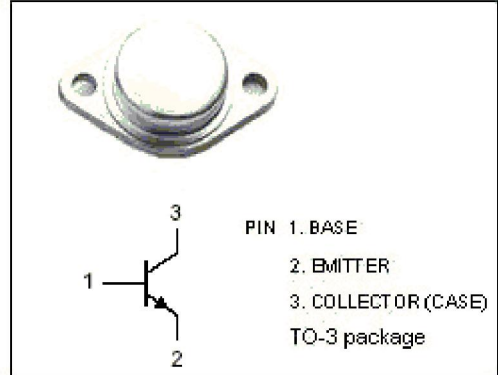
- Designed for use in very fast switching applications in inductive circuits.

**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	5	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current	4	A
$I_{BM}$	Base Current-Peak	8	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ C$	125	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	1.4	$^\circ C/W$



## isc Silicon NPN Power Transistor

## BUS131H

## 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	$I_C=1.5\text{A}; I_B=0.15\text{A}$			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$			2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$			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	mA
$h_{FE}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	7			
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{kHz}$			200	pF

## Switching Times , Resistive Load

$t_{on}$	Turn-On Time	$I_C=3\text{A}; I_{B1}=0.3\text{A}; I_{B2}=-0.6\text{A}$		0.4		$\mu\text{s}$
$t_{stg}$	Storage Time			1.2		$\mu\text{s}$
$t_f$	Fall Time			0.12		$\mu\text{s}$