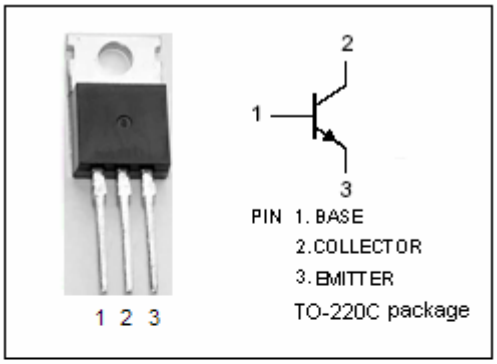
isc Silicon NPN Power Transistors BUT131/A

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 450V(Min)- BUT131
  500V(Min)- BUT131A
- High Switching Speed

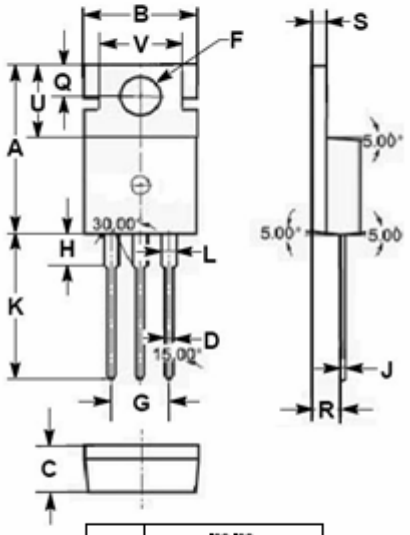


APPLICATIONS

- Designed for use in converters, inverters, switching regulators, motor control systems etc.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CES}	Collector-Emitter Voltage V_{BE}= 0	BUT131	850	V
		BUT131A	1000	
V_{CEO}	Collector-Emitter Voltage	BUT131	450	V
		BUT131A	500	
V_{EBO}	Emitter-Base Voltage		6	V
I_C	Collector Current-Continuous		5	A
I_{CM}	Collector Current-Peak		10	A
I_B	Base Current-Continuous		4	A
I_{BM}	Base Current-Peak		8	A
P_C	Collector Power Dissipation @ T_C=25℃		80	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.56	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BUT131	I_C= 0.1A ;I_B= 0; L= 10mH	450			V
		BUT131A		500			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		I_C= 1.5A; I_B= 0.2A			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= 3A; I_B= 0.4A			2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C= 3A; I_B= 0.4A			1.5	V
I_{CEV}	Collector Cutoff Current		V_{CE}=V_{CESmax};V_{BE}=-1.5V V_{CE}=V_{CESmax};V_{BE}=-1.5V;T_J=100℃			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current		V_{EB}= 6V; I_C=0			1.0	mA
h_{FE}	DC Current Gain		I_C= 5A ; V_{CE}= 5V	5			
C_{OB}	Output Capacitance		I_E= 0; V_{CB}= 10V; f_{test}= 1kHz			200	pF

Switching Times; Resistive Load

t_{on}	Turn-On Time	I_C= 3A; I_{B1}= 0.4A; I_{B2}= -0.8A		0.35		μs
t_{stg}	Storage Time			1.2		μs
t_f	Fall Time			0.07		μs