

isc Silicon NPN Power Transistor

BD131

DESCRIPTION

- DC Current Gain-
: $h_{FE} = 40(\text{Min}) @ I_C = 0.5\text{A}$
- Collector-Emitter Breakdown Voltage -
: $V_{(BR)CEO} = 45\text{V}(\text{Min.})$
- Complement to type BD132
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

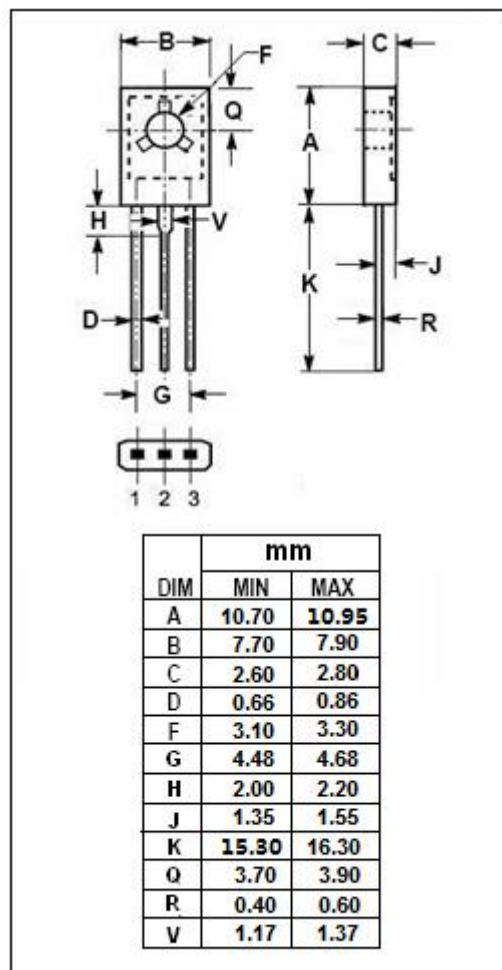
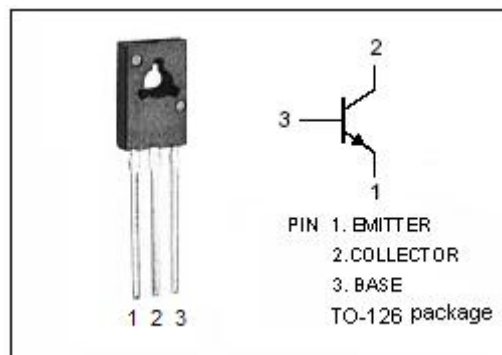
- Designed for medium power and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	6	A
I_{BM}	Base Current-Peak	0.5	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	15	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	6	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BD131****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 30mA; I _B = 0	45			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 0.5A; I _B = 50mA			0.3	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.2A			0.7	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 0.5A; I _B = 50mA			1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 0.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 40V; I _E = 0 V _{CB} = 40V; I _E = 0, T _C =150°C			50 10	nA μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 3V; I _C =0			50	nA
h _{FE-1}	DC Current Gain	I _C = 0.5A; V _{CE} = 12V	40			
h _{FE-2}	DC Current Gain	I _C = 2A; V _{CE} = 1V	20			
f _T	Current-Gain—Bandwidth Product	I _C = 0.25A; V _{CE} = 5V	60			MHz

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