

**isc Silicon NPN Power Transistor**
**BD141**
**DESCRIPTION**

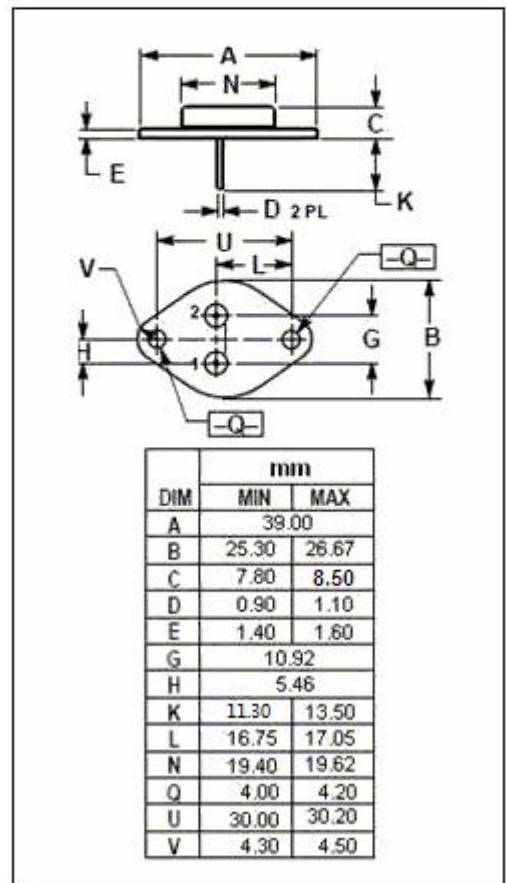
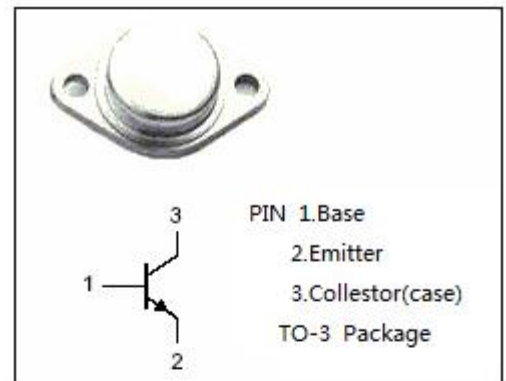
- Excellent Safe Operating Area
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 120V(\text{Min})$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 4A$
- Good Linearity of  $h_{FE}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

**APPLICATIONS**

- Designed for general-purpose switching and amplifier applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	140	V
$V_{CEO}$	Collector-Emitter Voltage	120	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	3	A
$P_C$	Collector Power Dissipation@ $T_C = 25^\circ\text{C}$	117	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistors****BD141****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	120			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	140			V
V <sub>CE(sat) -1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			1.0	V
V <sub>CE(sat) -2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 0.6A			1.5	V
V <sub>BE(sat) -1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			1.5	V
V <sub>BE(sat) -2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 0.6A			2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 140V; I <sub>E</sub> = 0			0.1	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 120V; I <sub>B</sub> = 0			0.5	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0			0.1	mA
h <sub>FE -1</sub>	DC Current Gain	I <sub>C</sub> = 4A; V <sub>CE</sub> = 5V	20		70	
h <sub>FE -2</sub>	DC Current Gain	I <sub>C</sub> = 8A; V <sub>CE</sub> = 5V	5			
f <sub>T</sub>	Current Gain-Bandwidth Product	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 10V;f=1.0MHz	8			MHz

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