

isc Silicon NPN Power Transistor
BD141
DESCRIPTION

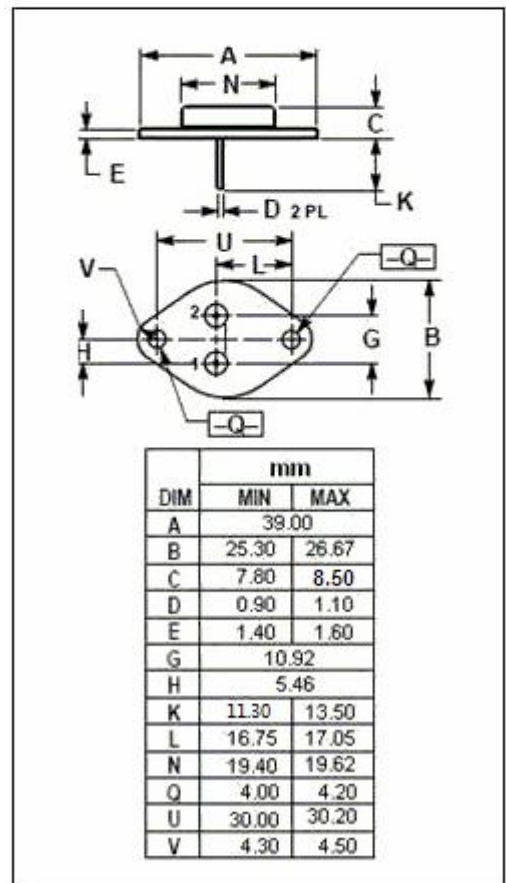
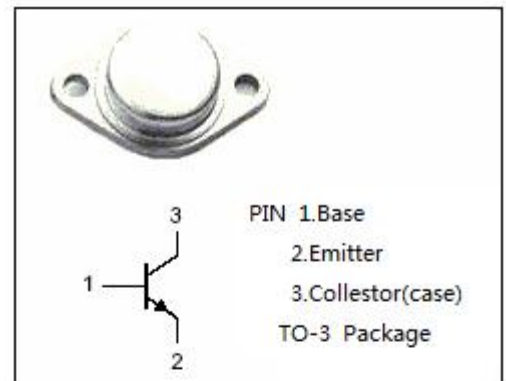
- Excellent Safe Operating Area
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 120V(\text{Min})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 4A$
- Good Linearity of h_{FE}
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

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	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=30\text{mA}; I_B=0$	120			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	140			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.6\text{A}$			1.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.5	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.6\text{A}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=140\text{V}; I_E=0$			0.1	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=120\text{V}; I_B=0$			0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			0.1	mA
h_{FE-1}	DC Current Gain	$I_C=4\text{A}; V_{CE}=5\text{V}$	20		70	
h_{FE-2}	DC Current Gain	$I_C=8\text{A}; V_{CE}=5\text{V}$	5			
f_T	Current Gain-Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f=1.0\text{MHz}$	8			MHz

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