

isc Silicon PNP Power Transistor

BD438

DESCRIPTION

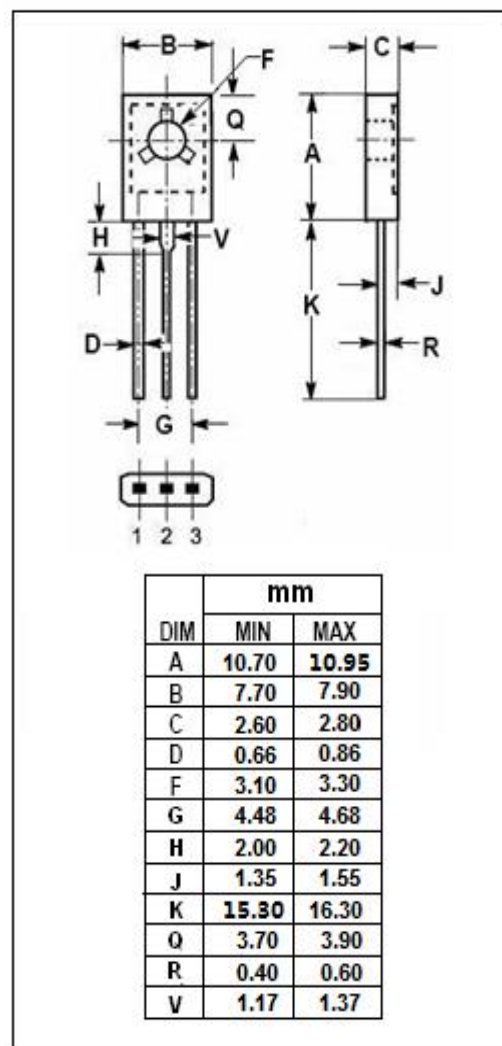
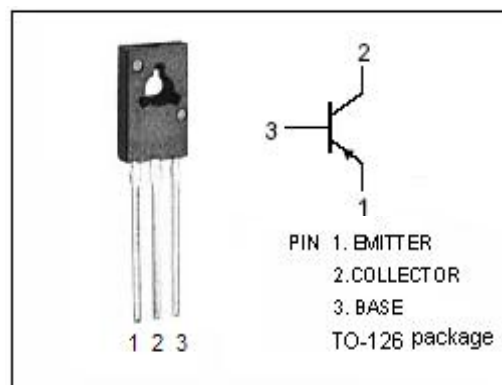
- Collector-Emitter Sustaining Voltage -
: $V_{CEO(SUS)} = -45V(\text{Min})$
- Complement to type BD437
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for medium power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-45	V
V_{CES}	Collector-Emitter Voltage	-45	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-4	A
I_{CM}	Collector Current-Pulse	-7	A
I_B	Base Current-Continuous	-1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	36	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



isc Silicon PNP Power Transistor**BD438****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	$I_C = -30\text{mA}; I_B = 0$	-45			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}; I_B = -0.2\text{A}$			-0.6	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -2\text{A}; V_{CE} = -1\text{V}$			-1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -45\text{V}; I_E = 0$			-100	μA
I_{CEO}	Collector Cutoff Current	$V_{CE} = -45\text{V}; V_{BE} = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-1	mA
h_{FE-1}	DC Current Gain	$I_C = -10\text{mA}; V_{CE} = -5\text{V}$	30			
h_{FE-2}	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -1\text{V}$	85			
h_{FE-3}	DC Current Gain	$I_C = -2\text{A}; V_{CE} = -1\text{V}$	40			
f_T	Current-Gain—Bandwidth Product	$I_C = -0.25\text{A}; V_{CE} = -1\text{V}$	3			MHz

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