

**Silicon PNP Power Transistor**

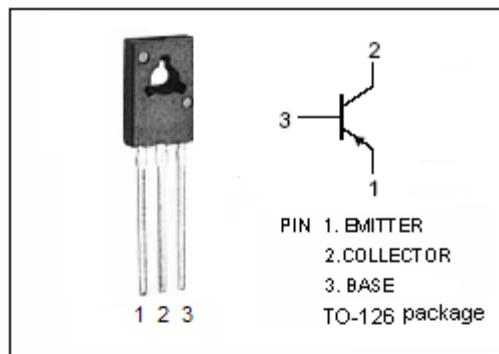
**BD438**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage -  
:  $V_{CEO(SUS)} = -45V(\text{Min})$
- Complement to type BD437

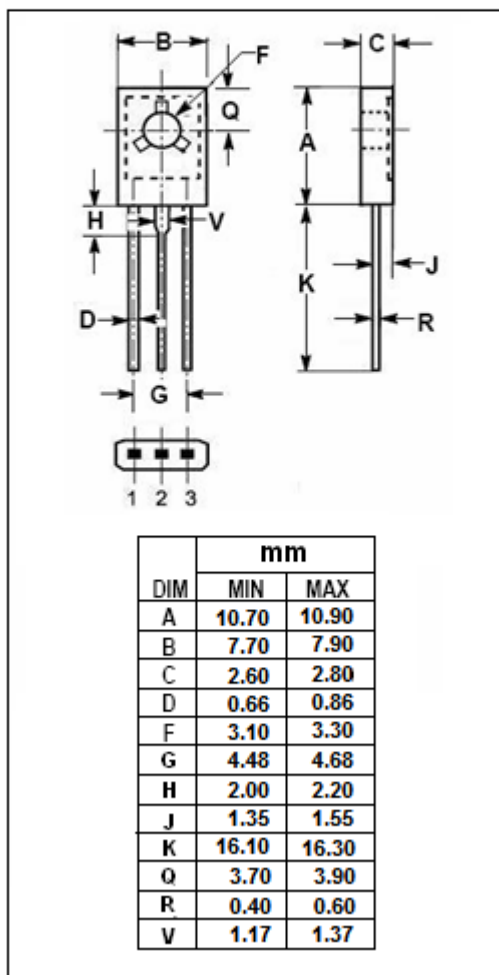
**APPLICATIONS**

- 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	$^\circ\text{C}$



## 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	$I_C = -100\text{mA}; I_B = 0$	-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	$\mu\text{A}$
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -45\text{V}; V_{BE} = 0$			-100	$\mu\text{A}$
$I_{EBO}$	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