

Silicon PNP Power Transistor

BD138

DESCRIPTION

- DC Current Gain -
: $h_{FE} = 40(\text{Min}) @ I_C = -0.15\text{A}$
- Collector-Emitter Sustaining Voltage -
: $V_{CEO(\text{SUS})} = -60\text{V}(\text{Min})$
- Complement to type BD137

APPLICATIONS

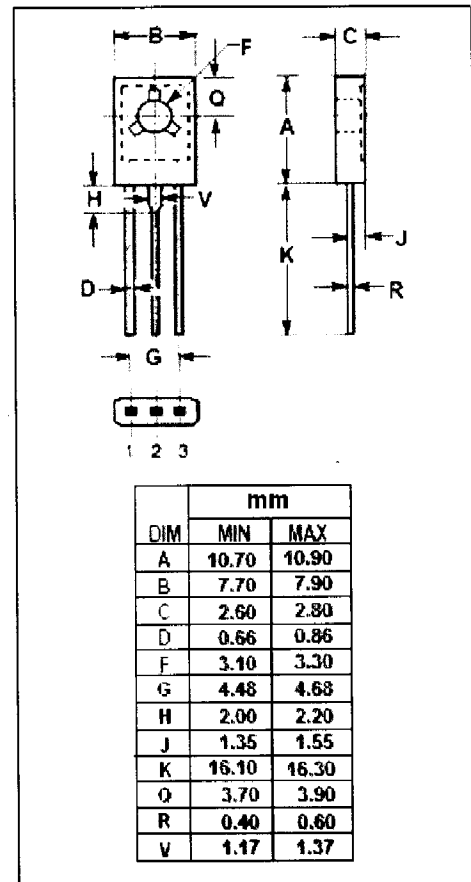
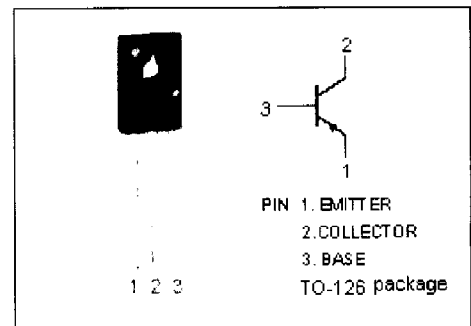
- Designed for use as audio amplifiers and drivers utilizing complementary or quasi complementary circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-1.5	A
I_B	Base Current-Continuous	-0.5	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.25	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	12.5	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{thj-c}	Thermal Resistance, Junction to Case	10	$^\circ\text{C/W}$
R_{thj-a}	Thermal Resistance, Junction to Ambient	100	$^\circ\text{C/W}$



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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	$I_C = -30\text{mA}; I_B = 0$	-60			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -0.5\text{A}; I_B = -50\text{mA}$			-0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -0.5\text{A}; V_{CE} = -2\text{V}$			-1.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -30\text{V}; I_E = 0$ $V_{CB} = -30\text{V}; I_E = 0; T_C = 125^\circ\text{C}$			-0.1 -10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-10	μA
h_{FE-1}	DC Current Gain	$I_C = -5\text{mA}; V_{CE} = -2\text{V}$	25			
h_{FE-2}	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -2\text{V}$	25			
h_{FE-3}	DC Current Gain	$I_C = -0.15\text{A}; V_{CE} = -2\text{V}$	40		250	

◆ h_{FE-3} Classifications

6	10	16
40-100	63-160	100-250