

isc Silicon PNP Power Transistor
BD190
DESCRIPTION

- DC Current Gain-
: $h_{FE} = 40(\text{Min}) @ I_C = -0.5\text{A}$
- Collector-Emitter Sustaining Voltage -
: $V_{CEO(\text{SUS})} = -60\text{V}(\text{Min})$
- Complement to type BD189
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

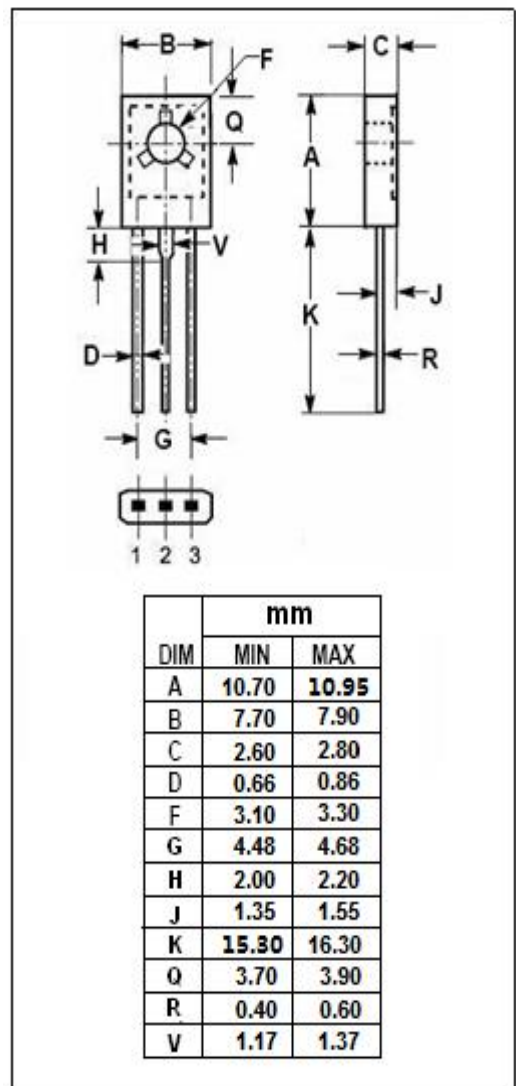
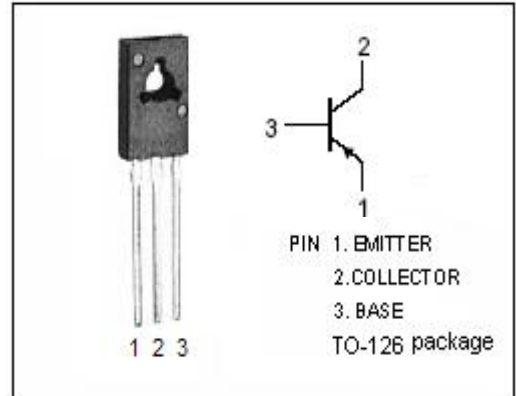
- Designed for use in 5 to 10 Watt audio amplifiers utilizing complementary or ruis complementary circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-70	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-4	A
I_B	Base Current-Continuous	-2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.12	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -50\text{mA}$; $I_B = 0$	-60			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}$; $I_B = -0.2\text{A}$			-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -2\text{A}$; $V_{CE} = -2\text{V}$			-1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -70\text{V}$; $I_E = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}$; $I_C = 0$			-1	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -70\text{V}$; $I_E = 0$			0.1	mA
h_{FE-1}	DC Current Gain	$I_C = -0.5\text{A}$; $V_{CE} = -2\text{V}$	40			
h_{FE-2}	DC Current Gain	$I_C = -2\text{A}$; $V_{CE} = -2\text{V}$	15			
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}$; $V_{CE} = -10\text{V}$	2			MHz

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