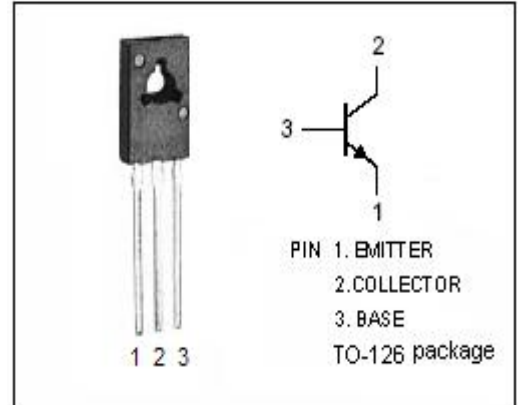


isc Silicon NPN Power Transistor
BD189
DESCRIPTION

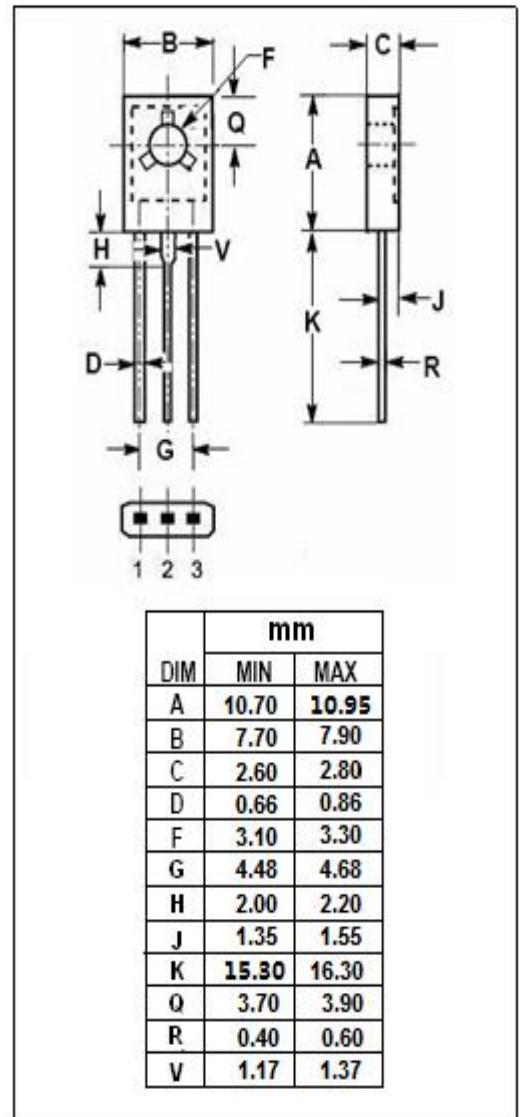
- DC Current Gain-
: $h_{FE} = 40(\text{Min}) @ I_C = 0.5A$
- Collector-Emitter Sustaining Voltage -
: $V_{CEO(\text{SUS})} = 60V(\text{Min})$
- Complement to type BD190
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in 5~10 Watt audio amplifiers utilizing Complementary or quasi 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	$^\circ\text{C}/\text{W}$

isc Silicon NPN Power Transistor

BD189

ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	60			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.2A			1.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 2A; V _{CE} = 2V			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 70V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 0.5A; V _{CE} = 2V	40			
h _{FE-2}	DC Current Gain	I _C = 2A; V _{CE} = 2V	15			
f _T	Current-Gain—Bandwidth Product	I _C = 1A; V _{CE} = 10V; f= 1MHz	2.0			MHz

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