

isc Silicon NPN Power Transistor

BD787

DESCRIPTION

- DC Current Gain-
: $h_{FE} = 40 \sim 250(\text{Min}) @ I_C = 0.2A$
- Collector-Emitter Sustaining Voltage -
: $V_{CEO(\text{SUS})} = 60V(\text{Min})$
- Complement to type BD788
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

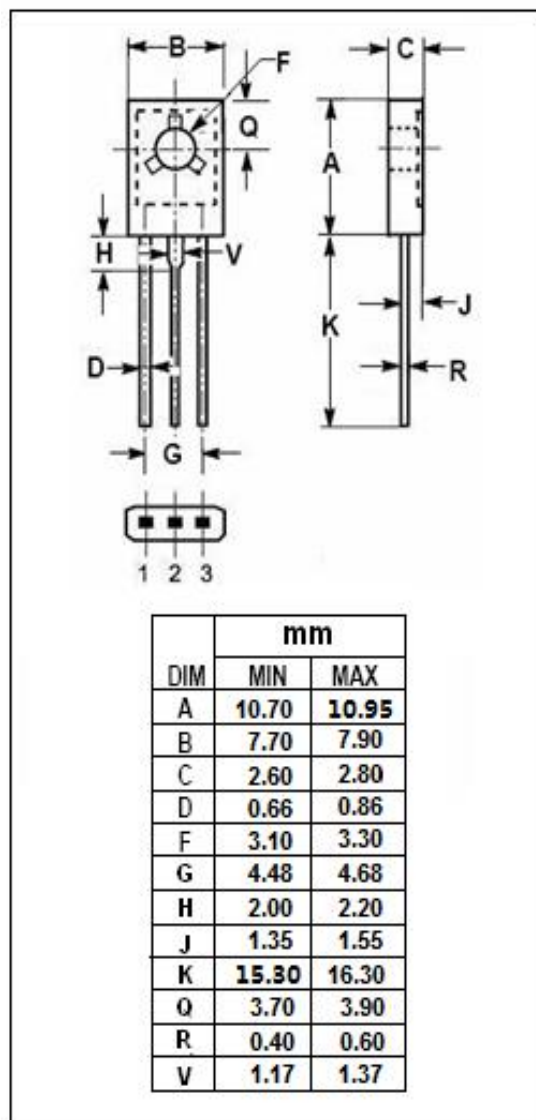
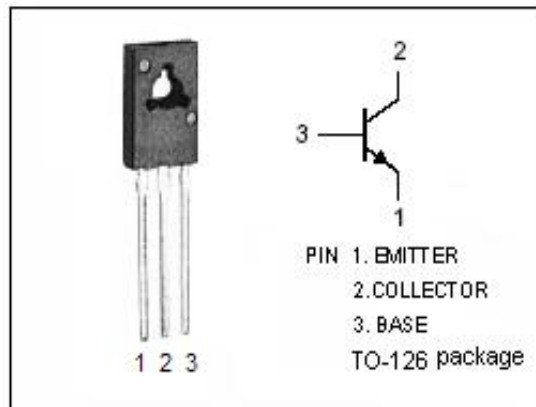
- Designed for low power audio amplifier and low current, high-speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	4	A
I_{CM}	Collector Current-Peak	8	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	15	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	8.34	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BD787****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 = 10mA; I _B = 0	60			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 0.5A; I _B = 50mA			0.4	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 1A; I _B = 0.1A			0.6	V
V _{CE(sat)-3}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.2A			0.8	V
V _{CE(sat)-4}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.8A			2.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 0.2A			2.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 2A; V _{CE} = 3V			1.8	V
I _{CEX}	Collector Cutoff Current	V _{CB} = 80V; V _{BE(off)} = 1.5V V _{CB} = 40V; V _{BE(off)} = 1.5V; T _C =125°C			1.0 0.1	μ A mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 30V; I _B = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C = 0			1.0	μ A
h _{FE-1}	DC Current Gain	I _C = 0.2A; V _{CE} = 3V	40		250	
h _{FE-2}	DC Current Gain	I _C = 1A; V _{CE} = 3V	25			
h _{FE-3}	DC Current Gain	I _C = 2A; V _{CE} = 3V	20			
h _{FE-4}	DC Current Gain	I _C = 4A; V _{CE} = 3V	5			

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