

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 -
: $V_{CEO(SUS)} = 60V(\text{Min})$
- Complement to type BD788

APPLICATIONS

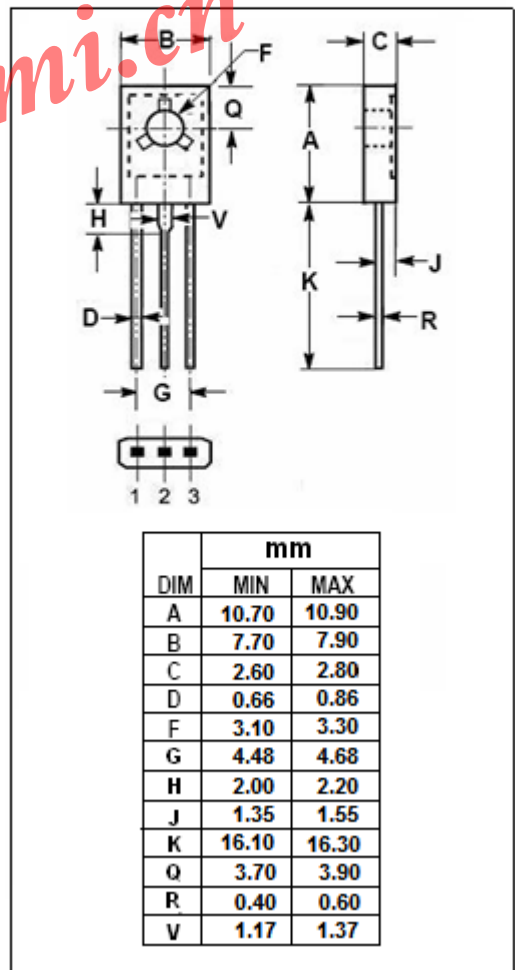
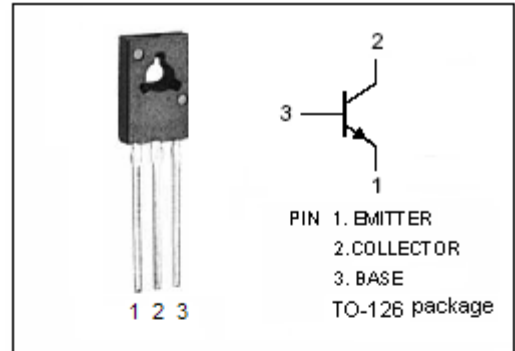
- Designed for low power audio amplifier and low current, high-speed switching applications.

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

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 @ $T_C=25^\circ C$	15	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	8.34	$^\circ C/W$



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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	$I_C=10\text{mA}; I_B=0$	60			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=0.5\text{A}; I_B=50\text{mA}$			0.4	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			0.6	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$			0.8	V
$V_{CE(sat)-4}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.8\text{A}$			2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=2\text{A}; V_{CE}=3\text{V}$			1.8	V
I_{CEX}	Collector Cutoff Current	$V_{CB}=80\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CB}=40\text{V}; V_{BE(off)}=1.5\text{V}; T_C=125^\circ\text{C}$			1.0 0.1	μA mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=30\text{V}; I_B=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			1.0	μA
h_{FE-1}	DC Current Gain	$I_C=0.2\text{A}; V_{CE}=3\text{V}$	40		250	
h_{FE-2}	DC Current Gain	$I_C=1\text{A}; V_{CE}=3\text{V}$	25			
h_{FE-3}	DC Current Gain	$I_C=2\text{A}; V_{CE}=3\text{V}$	20			
h_{FE-4}	DC Current Gain	$I_C=4\text{A}; V_{CE}=3\text{V}$	5			
f_T	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=10\text{V}$	50			MHz
C_{OB}	Collector Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=0.1\text{MHz}$			50	pF