

**isc Silicon NPN Power Transistor**
**BD791**
**DESCRIPTION**

- High Collector–Emitter Sustaining Voltage —  
VCEO(sus) = 100 Vdc (Min)
- High DC Current Gain @ IC = 200 mAdc  
hFE = 40–250
- Low Collector–Emitter Saturation Voltage —  
VCE(sat) = 0.5 Vdc (Max) @ IC = 500 mAdc
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

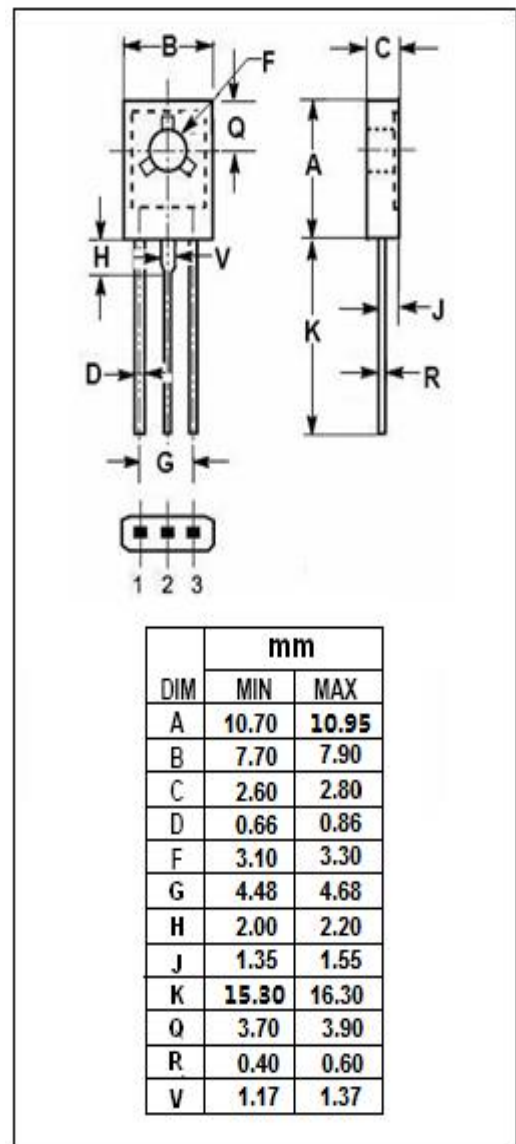
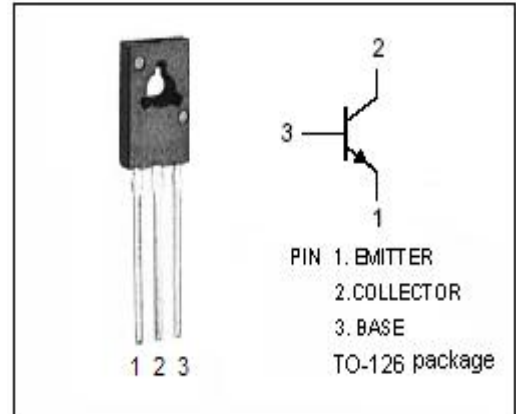
- Designed for low power audio amplifier and low current, high-speed switching applications.

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current-Continuous	4	A
I <sub>CM</sub>	Collector Current-Peak	8	A
I <sub>B</sub>	Base Current-Continuous	1	A
P <sub>C</sub>	Collector Power Dissipation @ T <sub>C</sub> =25°C	15	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	8.34	°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	$I_C=10\text{mA}; I_B=0$	100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=0.5\text{A}; I_B=50\text{mA}$			0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			1.0	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$			2.5	V
$V_{CE(sat)-4}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.8\text{A}$			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$			1.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=0.2\text{A}; V_{CE}=3\text{V}$			1.5	V
$I_{CEX}$	Collector Cutoff Current	$V_{CB}=100\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CB}=50\text{V}; V_{BE(off)}=1.5\text{V}; T_C=125^{\circ}\text{C}$			1.0 0.1	$\mu\text{A}$ mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=50\text{V}; I_B=0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			1.0	$\mu\text{A}$
$h_{FE-1}$	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			

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