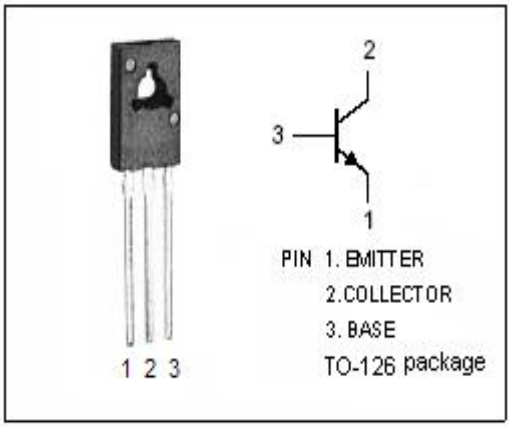
isc Silicon NPN Power Transistor — BD791

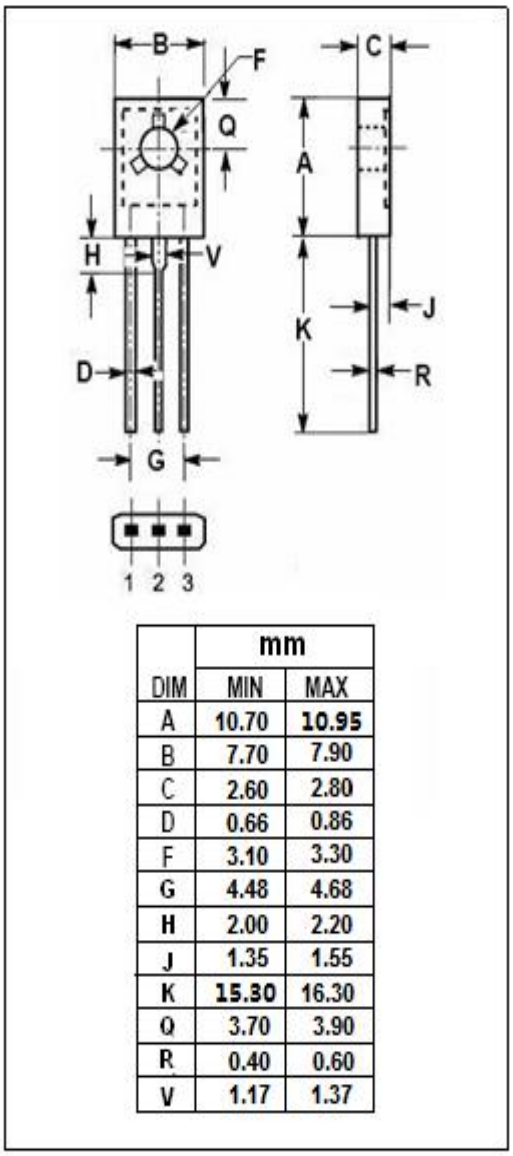
DESCRIPTION

• 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.



DIM	mm MIN	MAX
A	10.70	10.95
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	15.30	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	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℃	15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 10mA; I_B= 0	100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 0.5A; I_B= 50mA			0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 1A; I_B= 0.1A			1.0	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 0.2A			2.5	V
$V_{CE(sat)-4}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 0.2A			1.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 0.2A; V_{CE}= 3V			1.5	V
I_{CEX}	Collector Cutoff Current	V_{CB}= 100V;$V_{BE(off)}$= 1.5V V_{CB}= 50V;$V_{BE(off)}$= 1.5V;T_C=125℃			1.0 0.1	μA mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 50V; I_B= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			1.0	μA
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			