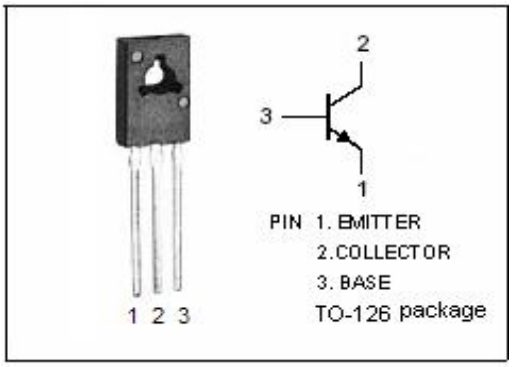
isc Silicon NPN Power Transistor — MJE200

DESCRIPTION

- Collector–Emitter Sustaining Voltage–
  : $V_{CEO(SUS)}$ = 25V(Min)
- DC Current Gain–
  : h_{FE} = 70(Min) @ I_C= 500mA
- Low Collector-Emitter Saturation Voltage-
  : VCE(sat)= 0.3V(Max)@ I_C = 500mA
- High Current-Gain—Bandwidth Product
  fT= 65MHz(Min) @ I_C= 100mA
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

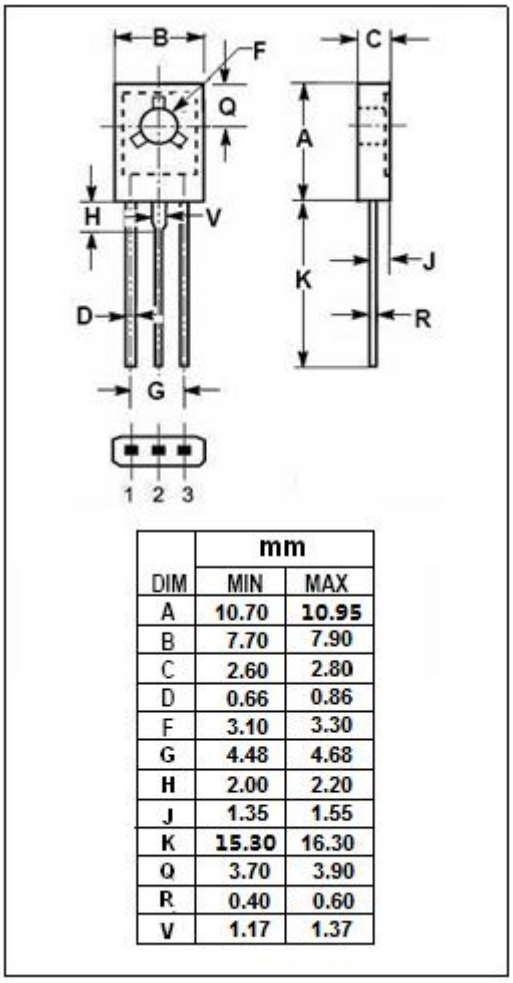
- Designed for low voltage,low-power,high-gain audio amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	5.0	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	1.0	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
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	83.4	℃/W



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

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ELECTRICAL CHARACTERISTICS

T_C =25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 10mA; I_B= 0	25		V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V; I_E= 0		100	nA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 8V; I_C= 0		100	nA
h_{FE-1}	DC Current Gain	I_C= 500m A ; V_{CE}= 1V	70		
h_{FE-2}	DC Current Gain	I_C= 2A ; V_{CE}= 1V	45	180	
h_{FE-3}	DC Current Gain	I_C= 5A ; V_{CE}= 2V	10		
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 500mA ;I_B= 50mA		0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 2A ;I_B= 200mA		0.75	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	I_C= 5A ;I_B= 1A		1.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C=5A; I_B= 1A		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 2A; V_{CE}= 1V		1.6	V
f_T	Current-Gain—Bandwidth Product	I_C= 100m A; V_{CE}= 10V;	65		MHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V,f_{test}= 0.1MHz		80	pF

Pulse test PW=300us,duty cycle≤2%

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