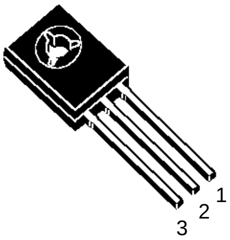
MJE210

SILICON PNP TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE

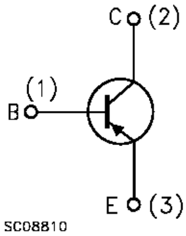
DESCRIPTION

The MJE210 is a silicon epitaxial-base PNP transistor in Jedec SOT-32 plastic package, designed for low voltage, low power, high gain aydio amplifier applications.



SOT-32

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage (IE = 0)	40	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	25	V
V_{EBO}	Base-Emitter Voltage (IC = 0)	8	V
I_C	Collector Current	5	A
I_{CM}	Collector Peak Current	10	A
I_B	Base Current	1	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25\ ^oC$ at $T_{amb} \leq 25\ ^oC$	15 1.5	W
T_{stg}	Storage Temperature	-65 to 150	^oC
T_j	Max Operating Junction Temperature	150	^oC

For PNP types voltage and current values are negative.

THERMAL DATA

$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	83.4	^{o}C/W
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	8.34	^{o}C/W

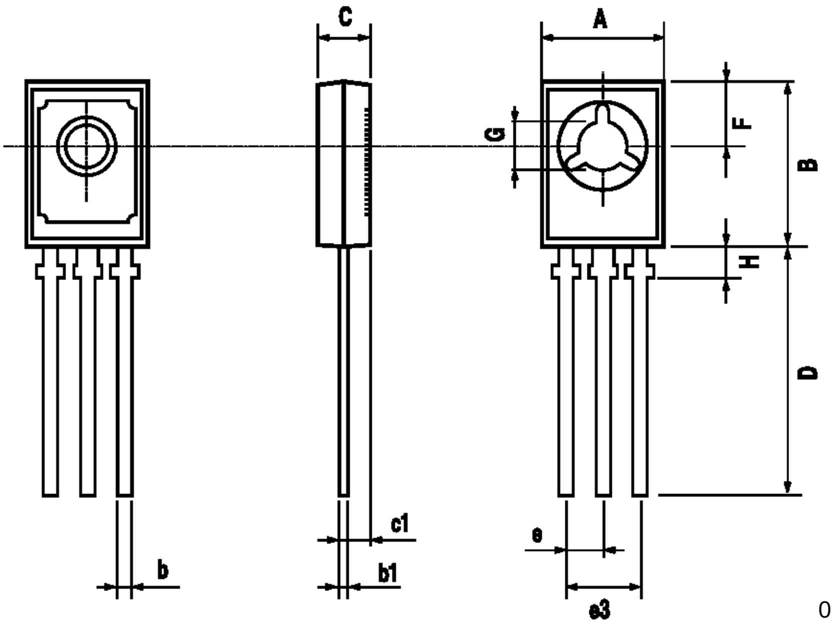
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^{o}C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = 40 V V_{CB} = 40 V T_{CASE} = 125^{o}C			100 100	nA μA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 8 V			100	nA
$V_{CEO(sus)}$∗	Collector-Emitter Sustaining Voltage	I_C = 10 mA	25			V
$V_{CE(sat)}$∗	Collector-Emitter Sustaining Voltage	I_C = 0.5 A I_B = 50 mA I_C = 2 A I_B = 0.2 A I_C = 5 A I_B = 1 A			0.3 0.75 1.8	V V V
$V_{BE(sat)}$∗	Base-Emitter on Voltage	I_C = 5 A I_B = 1 A			2.5	V
V_{BE}∗	Base-Emitter on Voltage	I_C = 2 A V_{CE} = 1 V			1.6	V
h_{FE}∗	DC Current Gain	I_C = 0.5 A V_{CE} = 1 V I_C = 2 A V_{CE} = 1 V I_C = 5 A V_{CE} = 2 V	70 45 10		180	
f_T	Transistor Frequency	I_C = 0.1 A V_{CE} = 10 V f = 10 MHz	65			MHz
C_{CBO}	Collector-base Capacitance	V_{CB} = 10 V I_E = 0 f = 0.1 MHz			120	pF

∗ Pulsed: Pulse duration = 300μs, duty cycle ≤ 1.5%
For PNP type voltage and current values are negative.

SOT-32 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	7.4		7.8	0.291		0.307
B	10.5		10.8	0.413		0.445
b	0.7		0.9	0.028		0.035
b1	0.49		0.75	0.019		0.030
C	2.4		2.7	0.04		0.106
c1		1.2			0.047	
D		15.7			0.618	
e		2.2			0.087	
e3		4.4			0.173	
F		3.8			0.150	
G	3		3.2	0.118		0.126
H			2.54			0.100



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