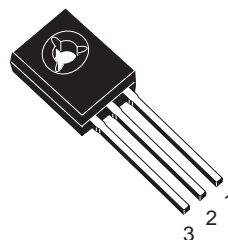


## SILICON PNP TRANSISTOR

- SGS-THOMSON PREFERRED SALESType
- PNP TRANSISTOR

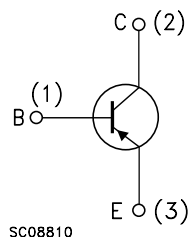
### DESCRIPTION

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



**SOT-32**

### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	-40	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	-25	V
$V_{EBO}$	Base-Emitter Voltage ( $I_C = 0$ )	-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 $T_{case} \leq 25\text{ }^{\circ}\text{C}$ at $T_{amb} \leq 25\text{ }^{\circ}\text{C}$	15 1.5	W
$T_{stg}$	Storage Temperature	-65 to 150	$^{\circ}\text{C}$
$T_j$	Max Operating Junction Temperature	150	$^{\circ}\text{C}$

## MJE210

### THERMAL DATA

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

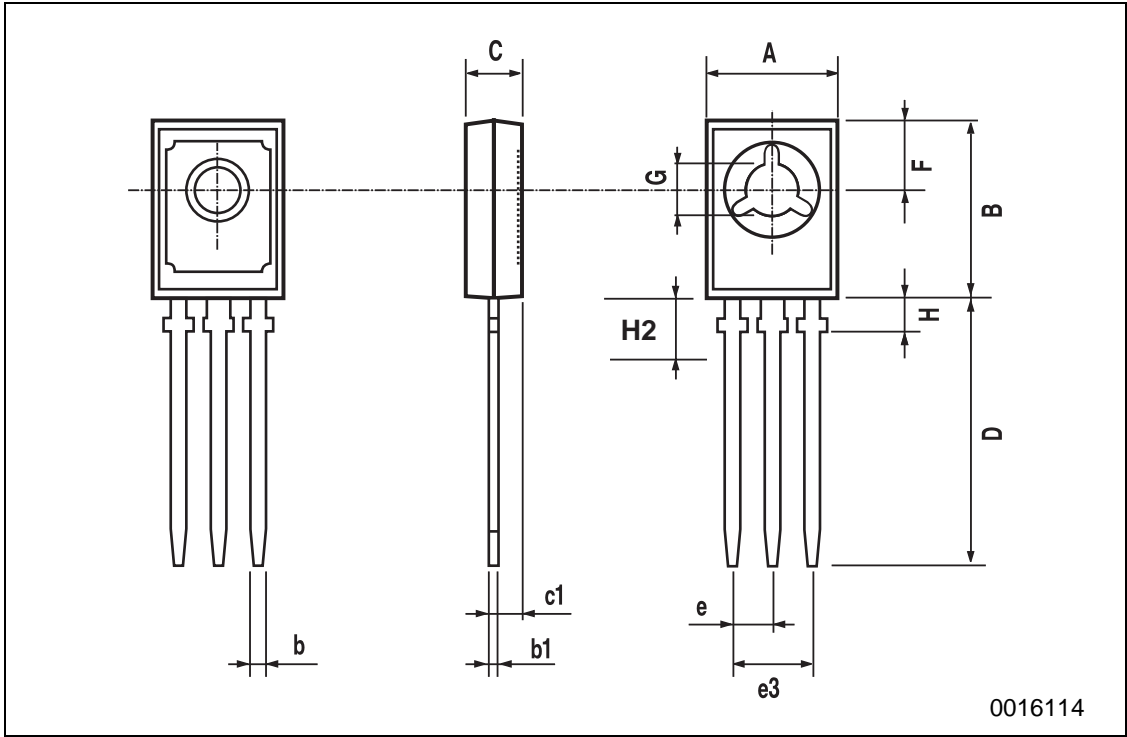
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

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

\* Pulsed: Pulse duration = 300 $\mu\text{s}$ , duty cycle  $\leq 1.5\%$

SOT-32 (TO-126) 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	0.040		0.106
c1	1.0		1.3	0.039		0.050
D	15.4		16.0	0.606		0.629
e		2.2			0.087	
e3	4.15		4.65	0.163		0.183
F		3.8			0.150	
G	3		3.2	0.118		0.126
H			2.54			0.100
H2		2.15			0.084	



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