

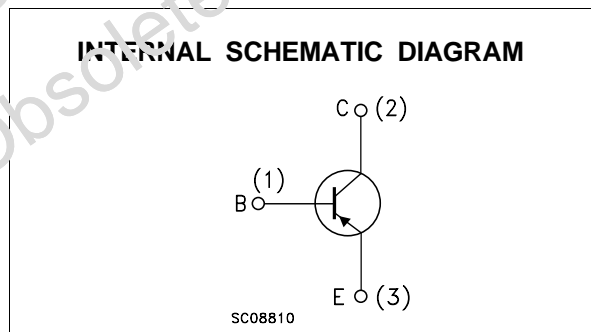
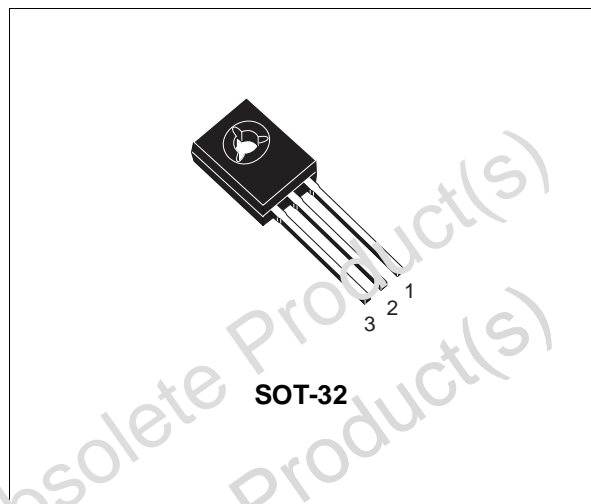


## SILICON PNP TRANSISTOR

- STMicroelectronics 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.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage ( $I_E = 0$ )	-40	V
$V_{CE0}$	Collector-Emitter Voltage ( $I_B = 0$ )	-25	V
$V_{EB0}$	Base-Emitter Voltage ( $I_C = 0$ )	-8	V
$I_C$	Collector Current	-5	A
$I_{CM}$	Collector Peak Current ( $t_p < 5$ ms)	-10	A
$I_B$	Base Current	-1	A
$P_{tot}$	Total Power Dissipation at $T_{case} \leq 25$ °C at $T_{amb} \leq 25$ °C	15 1.5	W
$T_{stg}$	Storage Temperature	-65 to 150	°C
$T_j$	Max Operating Junction Temperature	150	°C

## MJE210

### THERMAL DATA

R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	83.4	°C/W
R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	8.34	°C/W

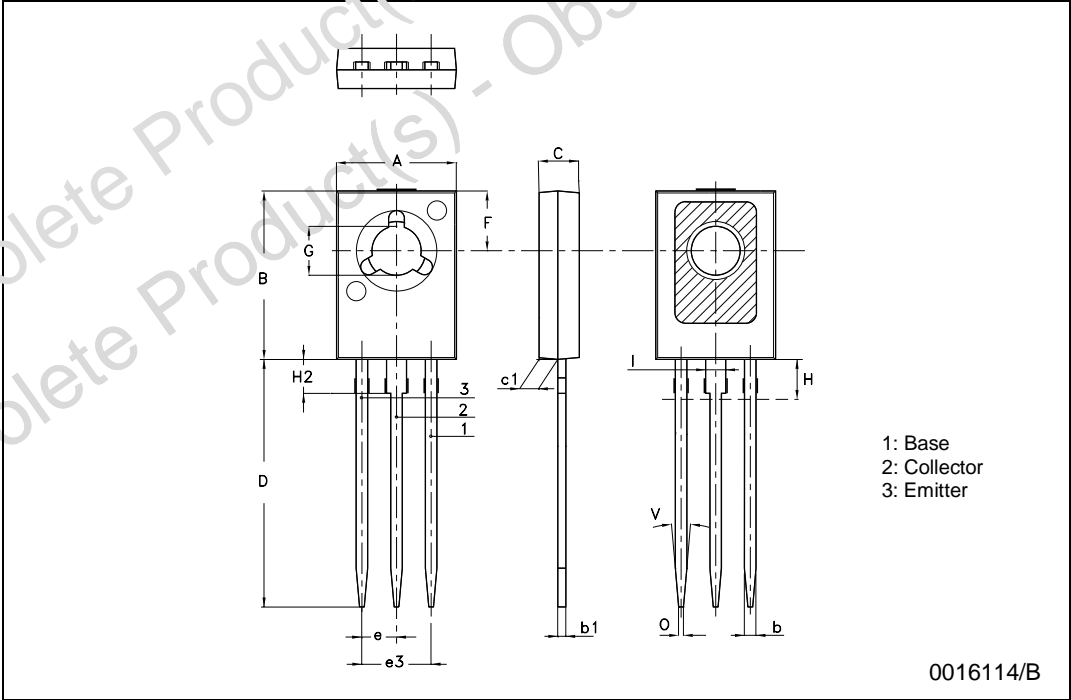
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CB</sub> = -40 V V <sub>CB</sub> = -40 V      T <sub>case</sub> = 125°C			-100 -100	nA μA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = -8 V			-100	nA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = -10 mA	-25			V
V <sub>CE(sat)*</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -0.5 A      I <sub>B</sub> = -50 mA I <sub>C</sub> = -2 A        I <sub>B</sub> = -0.2 A I <sub>C</sub> = -5 A        I <sub>B</sub> = -1 A			-0.3 -0.75 -1.8	V V V
V <sub>BE(sat)*</sub>	Base-Emitter on Voltage	I <sub>C</sub> = -5 A            I <sub>B</sub> = -1 A			-2.5	V
V <sub>BE*</sub>	Base-Emitter on Voltage	I <sub>C</sub> = -2 A            V <sub>CE</sub> = -1 V			-1.6	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = -0.5 A      V <sub>CE</sub> = -1 V I <sub>C</sub> = -2 A        V <sub>CE</sub> = -1 V I <sub>C</sub> = -5 A        V <sub>CE</sub> = -2 V	70 45 10		180	
f <sub>T</sub>	Transistor Frequency	I <sub>C</sub> = 0.1 A            V <sub>CE</sub> = 10 V f = 10 MHz	65			MHz
C <sub>CBO</sub>	Collector-base Capacitance	V <sub>CE</sub> = -10 V      I <sub>E</sub> = 0      f = 0.1 MHz			120	pF

\* Pulsed: Pulse duration = 300μs, duty cycle = 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		0.425
b	0.7		0.9	0.028		0.035
b1	0.40		0.65	0.015		0.025
C	2.4		2.7	0.094		0.106
c1	1.0		1.3	0.039		0.051
D	15.4		16.0	0.606		0.630
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
H2		2.15			0.084	
I		1.27			0.05	
O		0.3			0.011	
V		10°			10°	



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