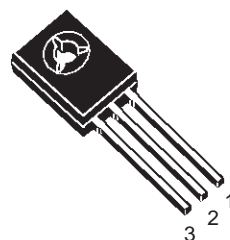


COMPLEMENTARY SILICON POWER TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES

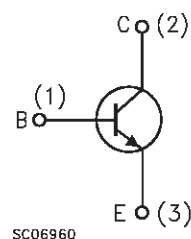
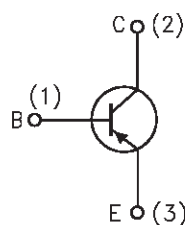
DESCRIPTION

The MJE172 (PNP type) and MJE182 (NPN type) are silicon epitaxial planar, complementary transistors in Jedec SOT-32 plastic package, they are designed for low power audio amplifier and low current, high speed switching applications.



SOT-32

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	MJE182	
		PNP	MJE172	
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	80	80	V
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	100	100	V
V_{EBO}	Base-Emitter Voltage ($I_C = 0$)	7	7	V
I_C	Collector Current	3	3	A
I_{CM}	Collector Peak Current	6	6	A
I_B	Base Current	1	1	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	12.5	12.5	W

MJE172 - MJE182

THERMAL DATA

R _{thj-amb}	Thermal Resistance Junction-ambient	Max	83.4	°C/W
R _{thj-case}	Thermal Resistance Junction-case	Max	10	°C/W

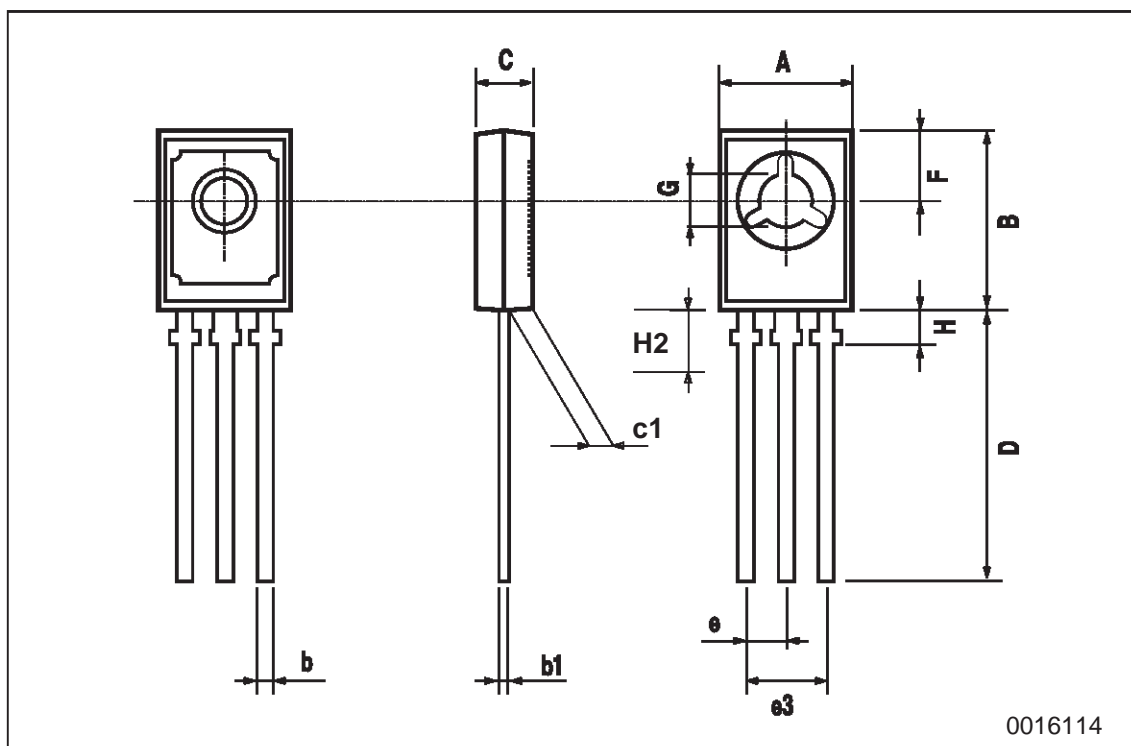
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = rated V _{CBO} T _{CASE} = 150°C			0.1 0.1	μA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 7 V			0.1	μA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage	I _C = 10 mA	80			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 0.5 A I _C = 1.5 A I _C = 3 A			0.3 0.9 1.7	V V V
V _{BE(sat)*}	Base-Emitter on Voltage	I _C = 1.5 A I _C = 3 A			1.5 2	V V
V _{BE*}	Base-Emitter on Voltage	I _C = 0.5 A V _{CE} = 1 V			1.2	V
h _{FE}	DC Current Gain	I _C = 0.1 A I _C = 0.5 A I _C = 1.5 A		50 30 12	250	
f _T	Transistor Frequency	I _C = 0.1 A f = 10 MHz	50			MHz
C _{CBO}	Collector-base Capacitance	V _{CB} = 10 V I _E = 0 f = 0.1MHz for MJE172 for MJE182			60 40	pF pF

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

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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