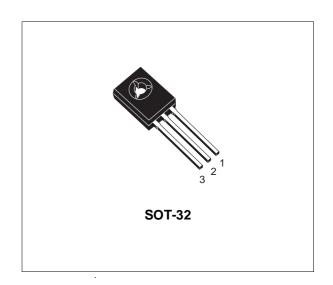


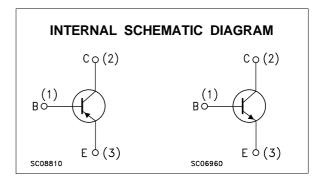
COMPLEMENTARY SILICON POWER TRANSISTORS

- 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.





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
Ic	Collector Current	3	3	А
I _{CM}	Collector Peak Current	6	6	Α
Ι _Β	Base Current	1	1	А
P _{tot}	Total Power Dissipation at $T_{case} \le 25$ °C	12.5	12.5	W

September 1998

THERMAL DATA

Rt	thj-amb	Thermal Resistance Junction-ambient	Max	83.4	°C/W
Rt	thj-case	Thermal Resistance Junction-case	Max	10	°C/W

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

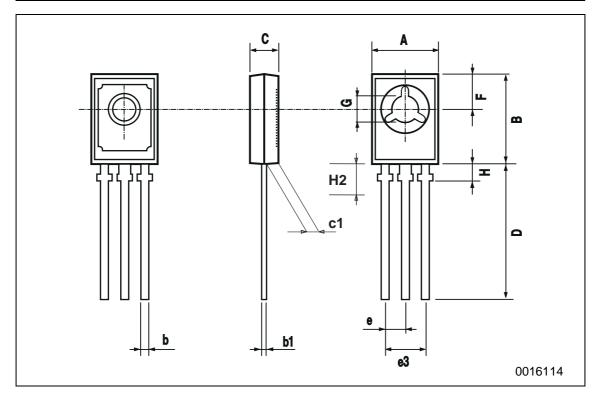
Symbol	Parameter	Test Conditions		Min.	Тур.	Max.	Unit
Ісво	Collector Cut-off Current (I _E = 0)	V_{CB} = rated V_{CBO} T_{CASE} = 150°C				0.1 0.1	μA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 7 V				0.1	μΑ
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage	I _C = 10 mA		80			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 0.5 A I _C = 1.5 A I _C = 3 A	$I_B = 50 \text{ mA}$ $I_B = 0.15 \text{ A}$ $I_B = 0.6 \text{ A}$			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	$I_B = 0.15 A$ $I_B = 0.6 A$			1.5 2	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	$V_{CE} = 1 V$ $V_{CE} = 1 V$ $V_{CE} = 1 V$	50 30 12		250	
f _T	Transistor Frequency	I _C = 0.1 A f = 10 MHz	V _{CE} = 10 V	50			MHz
С _{СВО}	Collector-base Capacitance	$V_{CB} = 10 V$ $I_E =$ for MJE172 for MJE182	= 0 f = 0.1MHz			60 40	pF pF

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^{*} Pulsed: Pulse duration = $300\mu s$, duty cycle $\leq 1.5\%$ For PNP type voltage and current values are negative.

SOT-32 (TO-126) MECHANICAL DATA

DIM.		mm			inch	
DIWI.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
А	7.4		7.8	0.291		0.307
В	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
С	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
е		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
Н			2.54			0.100
H2		2.15			0.084	



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