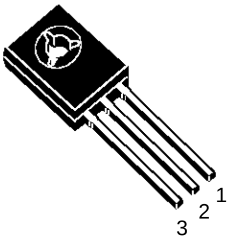
MJE521

SILICON NPN TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE

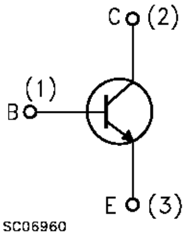
DESCRIPTION

The MJE521 is a silicon epitaxial-base NPN transistor in Jedec SOT-32 plastic package, intended for use in 5 to 20W audio amplifiers, general purpose amplifier and switching circuits.



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 ($I_B = 0$)	40	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	4	V
I_C	Collector Current	4	A
I_{CM}	Collector Peak Current	8	A
I_B	Base Current	2	A
P_{tot}	Total Dissipation at $T_c \leq 25\ ^oC$	40	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	3.12	$^oC/W$

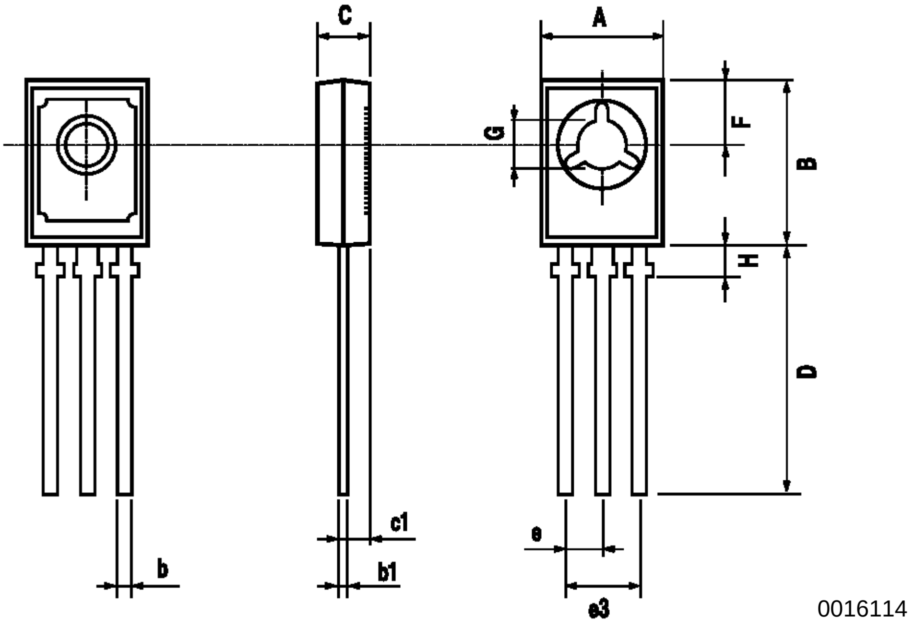
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = 40 V			100	μA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 4 V			100	μA
$V_{CEO(sus)}$∗	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 0.1 A	40			V
h_{FE}	DC Current Gain	I_C = 1 A V_{CE} = 1 V	40			

∗ Pulsed: Pulse duration = 300μs, duty cycle ≤ 1.5%
For PNP types 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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