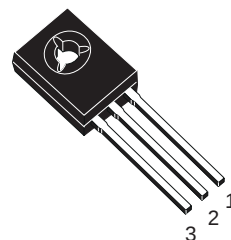


SILICON NPN POWER DARLINGTON TRANSISTORS

■ SGS-THOMSON PREFERRED SALESTYPES

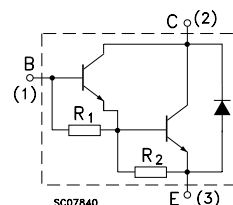
DESCRIPTION

The MJE802 and MJE803 are silicon epitaxial-base NPN transistors in monolithic Darlington configuration and are mounted in Jedec SOT-32 plastic package. They are intended for use in medium power linear and switching applications.



SOT-32

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	80	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	80	V
V_{EBO}	Base-Emitter Voltage ($I_C = 0$)	5	V
I_C	Collector Current	4	A
I_B	Base Current	0.1	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	40	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ C$
T_j	Max Operating Junction Temperature	150	$^\circ C$

For PNP types voltage and current values are negative.

THERMAL DATA

$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	3.13	$^{\circ}\text{C/W}$
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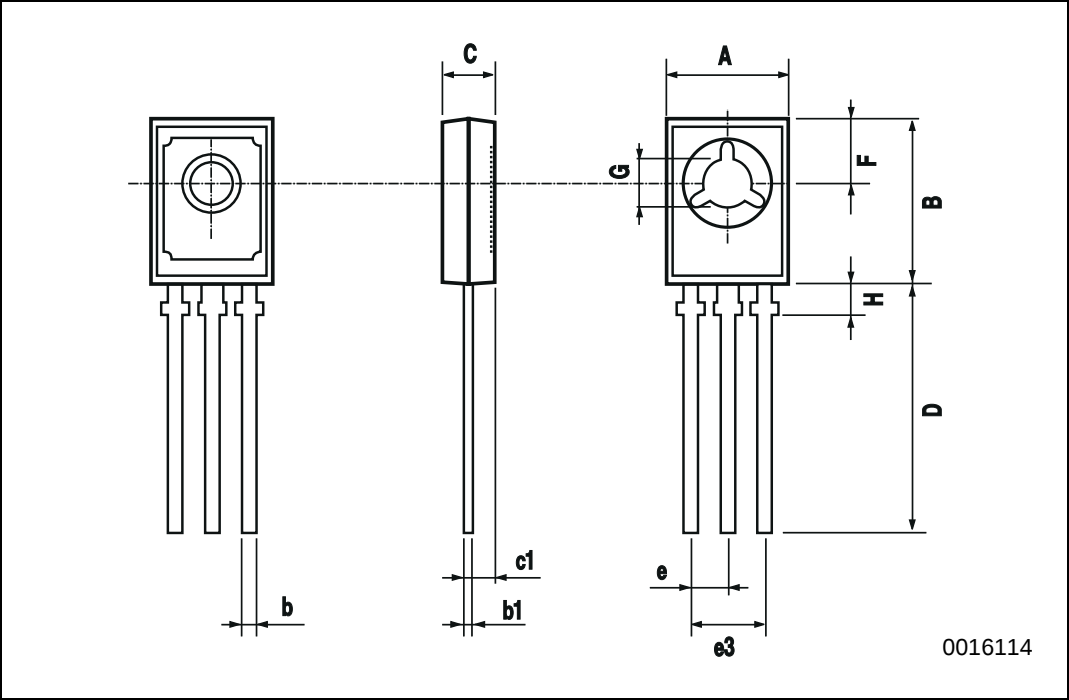
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = rated V _{CBO}				100	μA
		V _{CB} = rated V _{CBO} T _{case} = 100 °C				500	μA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = rated V _{CEO}				100	μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V				2	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 50 mA		80			V
V _{CE(sat)} *	Collector-Emitter Sustaining Voltage	I _C = 4 A	I _B = 40 mA			3	V
		I _C = 1.5 A	I _B = 30 mA			2.5	V
V _{BE} *	Base-Emitter Voltage	I _C = 4 A	V _{CE} = 3 V			3	V
		I _C = 1.5 A	V _{CE} = 3 V			2.5	V
h _{FE} *	DC Current Gain	I _C = 4 A	V _{CE} = 3 V	100			
		I _C = 1.5 A	V _{CE} = 3 V	750			
h _{fe}	Small Signal Current Gain	I _C = 1.5 A f = 1 MHz	V _{CE} = 3 V	1			

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 1.5\%$

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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