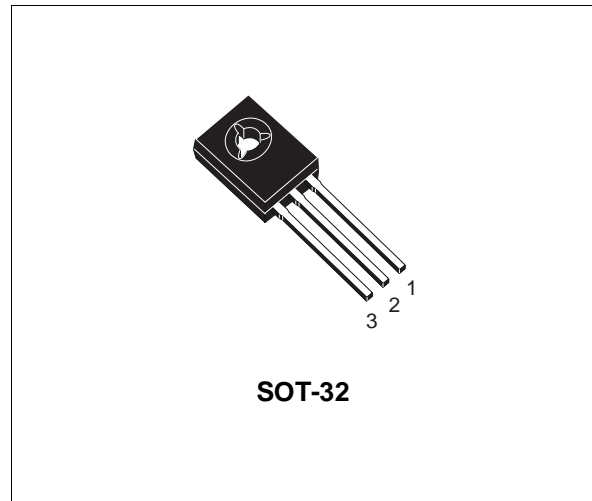


SILICON NPN POWER DARLINGTON TRANSISTORS

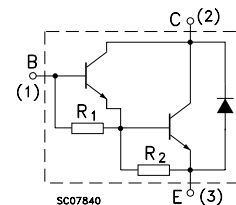
■ SGS-THOMSON PREFERRED SALESTYPES

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.



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 $T_{case} \leq 25\text{ }^\circ\text{C}$	40	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$
T_j	Max Operating Junction Temperature	150	$^\circ\text{C}$

For PNP types voltage and current values are negative.

MJE802-MJ803

THERMAL DATA

$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	3.13	$^{\circ}\text{C}/\text{W}$
---------------	-------------------------------------	-----	------	-----------------------------

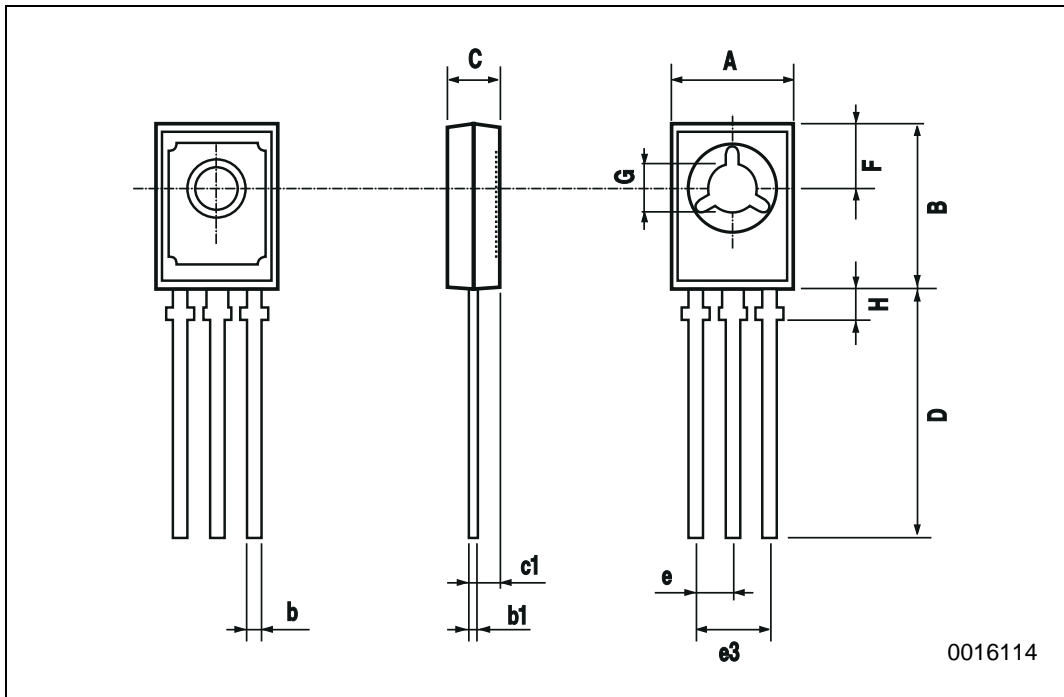
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = \text{rated } V_{CBO}$			100	μA
		$V_{CB} = \text{rated } V_{CBO}$ $T_{case} = 100^{\circ}\text{C}$			500	μA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = \text{rated } V_{CEO}$			100	μA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5 \text{ V}$			2	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 50 \text{ mA}$	80			V
$V_{CE(sat)}^*$	Collector-Emitter Sustaining Voltage	$I_C = 4 \text{ A}$			3	V
		$I_C = 1.5 \text{ A}$			2.5	V
V_{BE}^*	Base-Emitter Voltage	$I_C = 4 \text{ A}$			3	V
		$I_C = 1.5 \text{ A}$			2.5	V
h_{FE}^*	DC Current Gain	$I_C = 4 \text{ A}$			100	
		$I_C = 1.5 \text{ A}$			750	
h_{fe}	Small Signal Current Gain	$I_C = 1.5 \text{ A}$ $f = 1 \text{ MHz}$			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



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1996 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A