



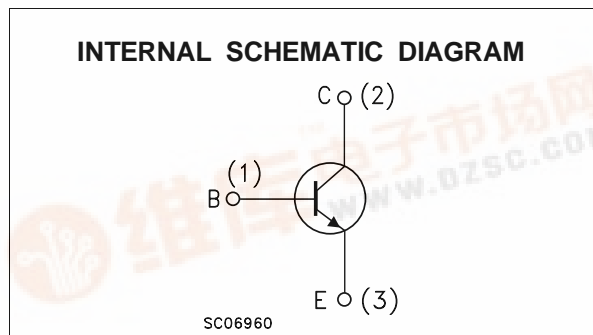
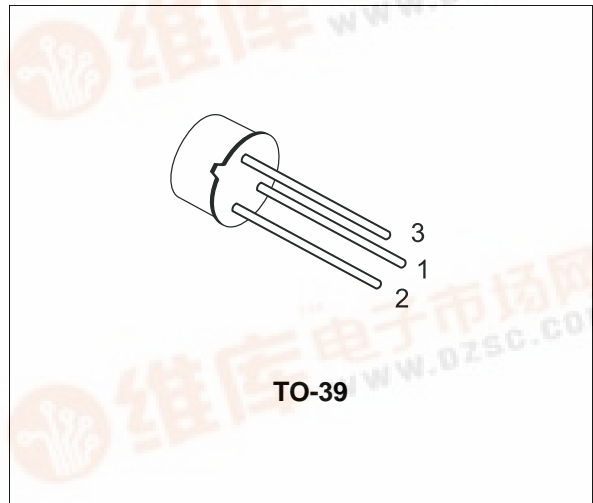
2N5339

SILICON NPN TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR

DESCRIPTION

The 2N5339 is a silicon epitaxial planar NPN transistor in Jedec TO-39 metal case. It is intended for high switching applications up to 5A.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	100	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	100	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	5	A
I_{CM}	Collector Peak Current	7	A
I_B	Base Current	1	A
P_{tot}	Total Dissipation at $T_c \leq 25\text{ }^\circ\text{C}$	6	W
P_{tot}	Total Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$	1	W
T_{stg}	Storage Temperature	-65 to 200	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	200	$^\circ\text{C}$

2N5339

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	29.2	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	175	°C/W

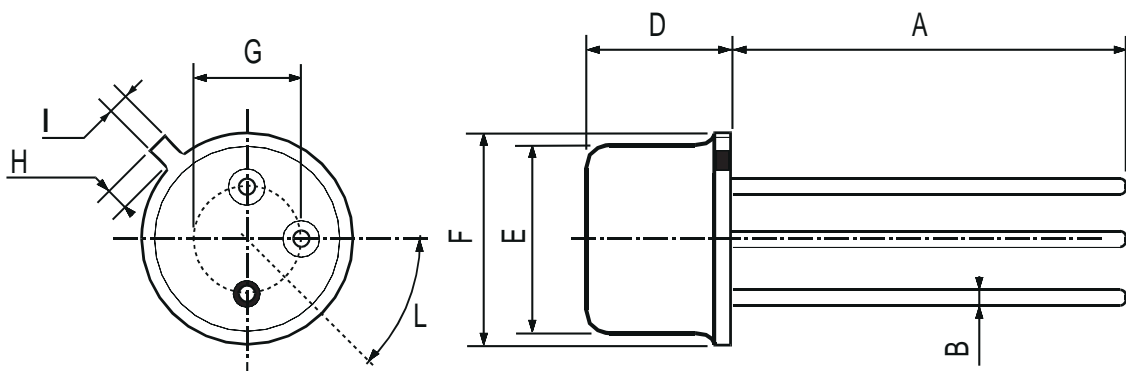
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 100 V			10	μA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 90 V			100	μA
I _{CEX}	Collector Cut-off Current (V _{BE} = -1.5V)	V _{CE} = 90 V V _{CE} = 90 V T _C = 150 °C			10 1	μA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = -6 V			100	μA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage	I _C = 50 mA	100			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 2 A I _B = 200 mA I _C = 5 A I _B = 500 mA			0.7 1.2	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 2 A I _B = 200 mA I _C = 5 A I _B = 500 mA			1.2 1.8	V V
h _{FE*}	DC Current Gain	I _C = 0.5 A V _{CE} = 2 V I _C = 2 A V _{CE} = 2 V I _C = 5 A V _{CE} = 2 V	60 60 40		240	
f _T	Transition Frequency	I _C = 0.5 A V _{CE} = 10 V	30			MHz
C _{CB0}	Collector-Base Capacitance	I _E = 0 V _{CB} = 10 V f = 0.1 MHz			250	pF
t _{on}	Turn on Time	I _C = 2 A V _{CC} = 40 V I _{B1} = 0.2 A			200	ns
t _s	Storage Time	I _C = 2 A V _{CC} = 40 V			2	μs
t _f	Fall Time	I _{B1} = -I _{B2} = 0.2A			200	ns

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

TO-39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45° (typ.)					



P008B

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.

© 1997 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

...