

**MEDIUM POWER PNP SILICON TRANSISTOR**

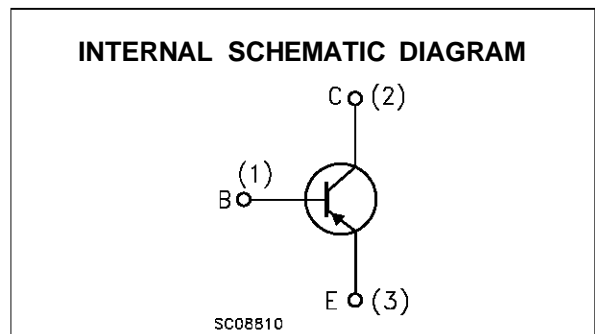
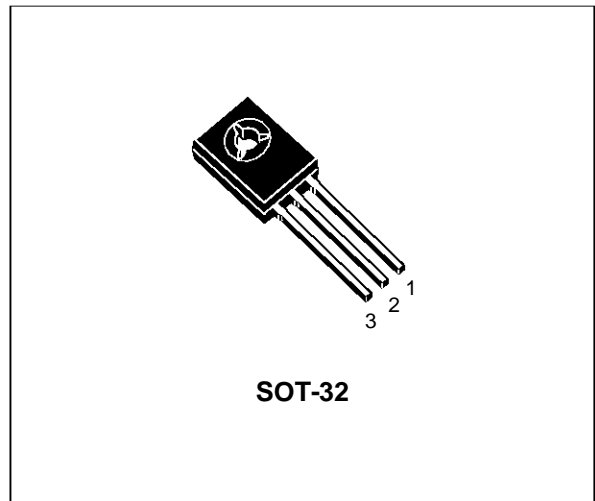
- SGS-THOMSON PREFERRED SALESTYPE
- PNP TRANSISTOR

**APPLICATIONS**

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

**DESCRIPTION**

The 2N5195 is a silicon epitaxial-base PNP transistor in Jedec SOT-32 plastic package. It is intended for use in medium power linear and switching applications. The complementary NPN type is 2N5192.



**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
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	-5	V
$I_C$	Collector Current	-4	A
$I_{CM}$	Collector Peak Current	-7	A
$I_B$	Base Current	-1	A
$P_{tot}$	Total Dissipation at $T_c \leq 25^\circ C$	40	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ C$
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$

**THERMAL DATA**

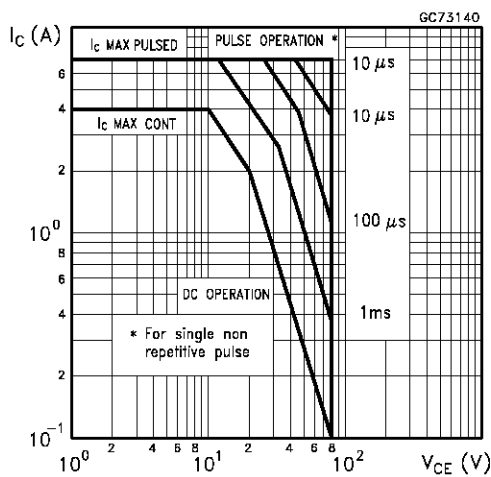
R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	3.12	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	100	°C/W

**ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

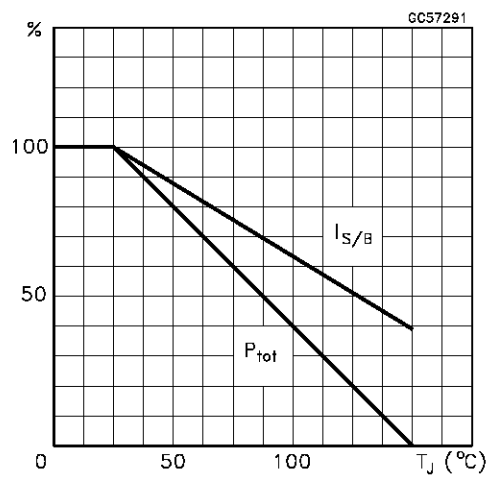
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CB</sub> = rated V <sub>CB0</sub>			-0.1	mA
I <sub>CEx</sub>	Collector Cut-off Current (V <sub>BE</sub> = -1.5V)	V <sub>CE</sub> = rated V <sub>CE0</sub> V <sub>CE</sub> = rated V <sub>CE0</sub> T <sub>C</sub> = 125 °C			-0.1 -2	mA mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = rated V <sub>CE0</sub>			-1	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = -5 V			-1	mA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -100 mA	-80			V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -1.5 A I <sub>B</sub> = -0.15 A I <sub>C</sub> = -4 A I <sub>B</sub> = -1 A			-0.6 -1.2	V V
V <sub>BE*</sub>	Base-Emitter Voltage	I <sub>C</sub> = -1.5 A V <sub>CE</sub> = -2 V			-1.2	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = -1.5 A V <sub>CE</sub> = -2 V I <sub>C</sub> = -4 A V <sub>CE</sub> = -2 V	20 7		80	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> = -1 A V <sub>CE</sub> = -10 V	2			MHz

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

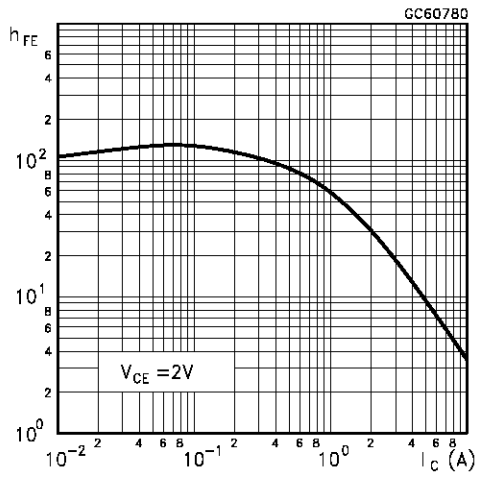
**Safe Operating Area**



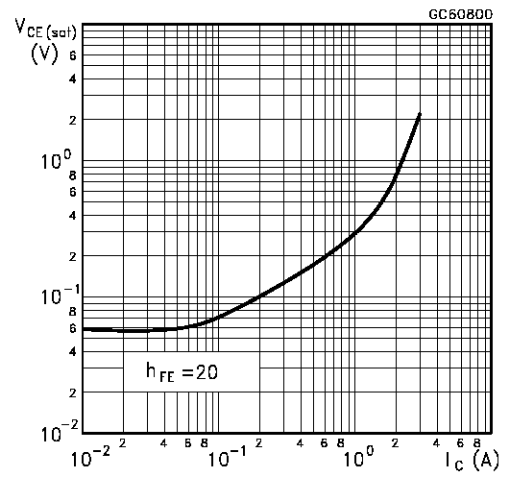
**Derating Curves**



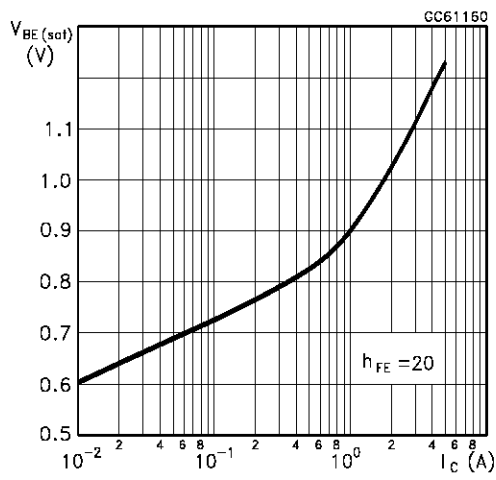
DC Current Gain



Collector-Emitter Saturation Voltage

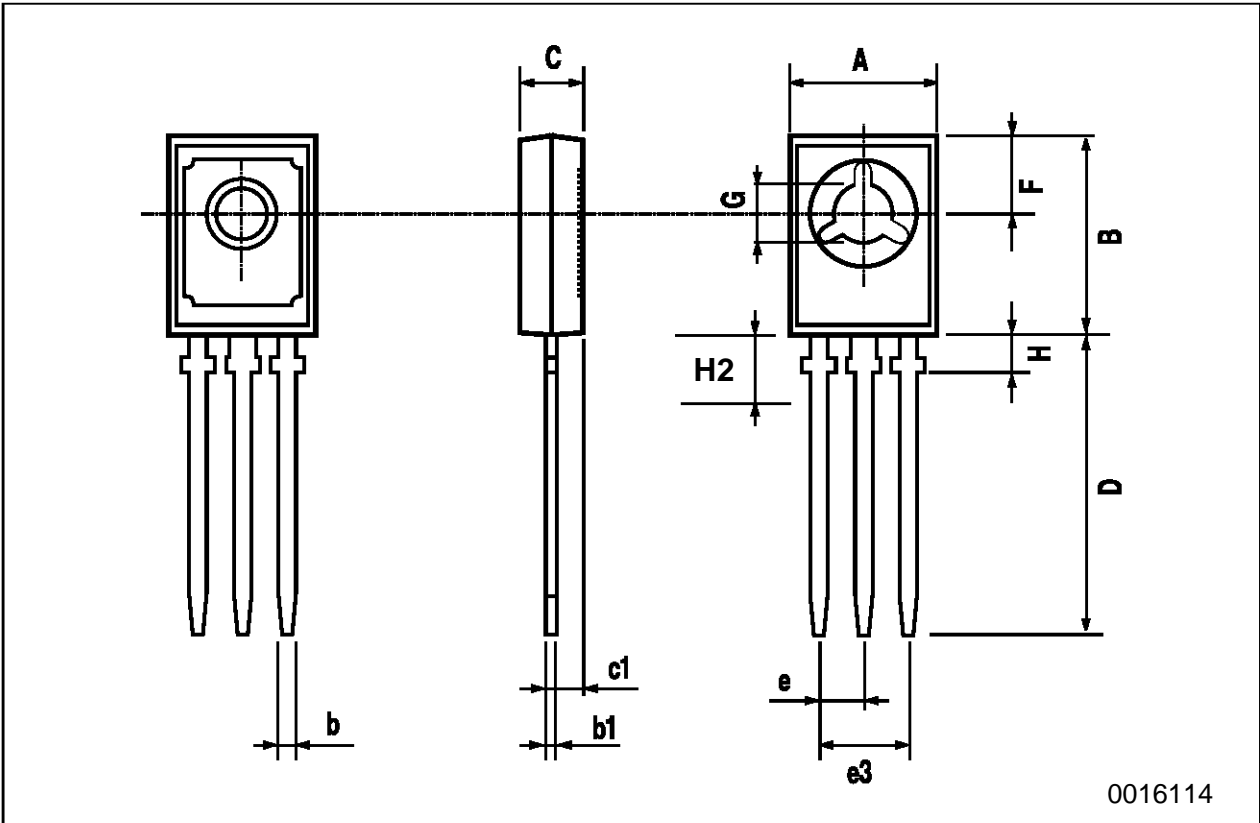


Base-Emitter Saturation Voltage



**SOT-32 (TO-126) 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	0.040		0.106
c1	1.0		1.3	0.039		0.050
D	15.4		16.0	0.606		0.629
e		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
H			2.54			0.100
H2		2.15			0.084	



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  
...