

MEDIUM POWER PNP SILICON TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- PNP TRANSISTOR

APPLICATIONS

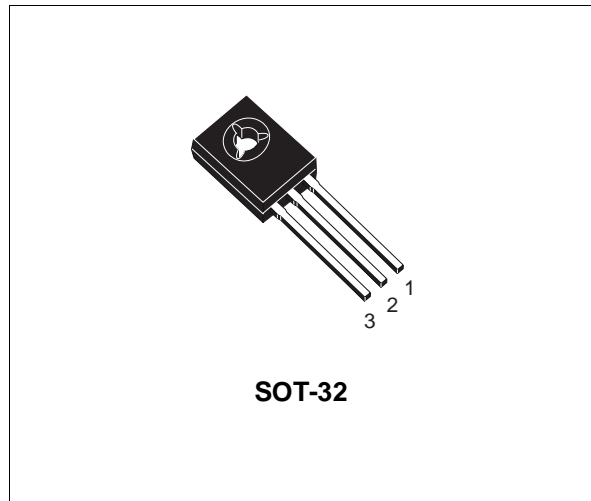
- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

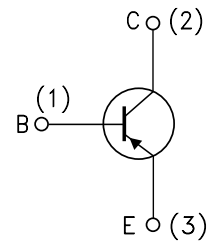
The 2N5195 is a silicon epitaxial-base PNP transistor in Jedec SOT-32 plastic package.

It is intended for use in medium power linear and switching applications.

The complementary NPN type is 2N5192.



INTERNAL SCHEMATIC DIAGRAM



SC08810

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

THERMAL DATA

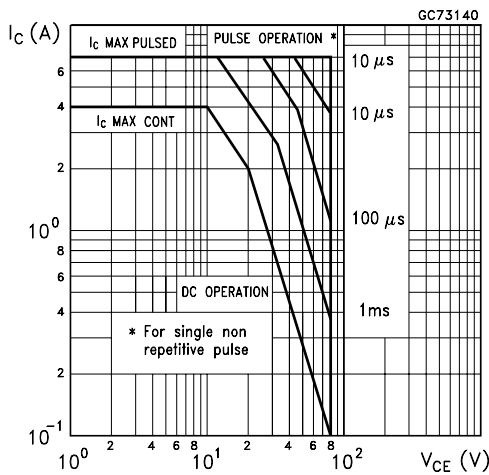
R _{thj-case}	Thermal Resistance Junction-case	Max	3.12	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	100	°C/W

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

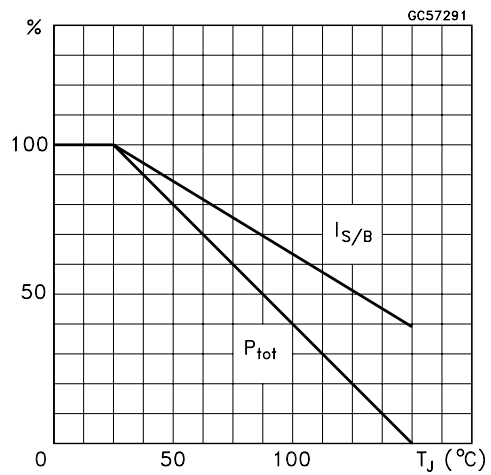
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = rated V _{CBO}			-0.1	mA
I _{CEX}	Collector Cut-off Current (V _{BE} = -1.5V)	V _{CE} = rated V _{CEO} V _{CE} = rated V _{CEO} T _c = 125 °C			-0.1 -2	mA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = rated V _{CEO}			-1	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = -5 V			-1	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage	I _C = -100 mA	-80			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = -1.5 A I _B = -0.15 A I _C = -4 A I _B = -1 A			-0.6 -1.2	V V
V _{BE*}	Base-Emitter Voltage	I _C = -1.5 A V _{CE} = -2 V			-1.2	V
h _{FE*}	DC Current Gain	I _C = -1.5 A V _{CE} = -2 V I _C = -4 A V _{CE} = -2 V	20 7		80	
f _T	Transition frequency	I _C = -1 A V _{CE} = -10 V	2			MHz

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

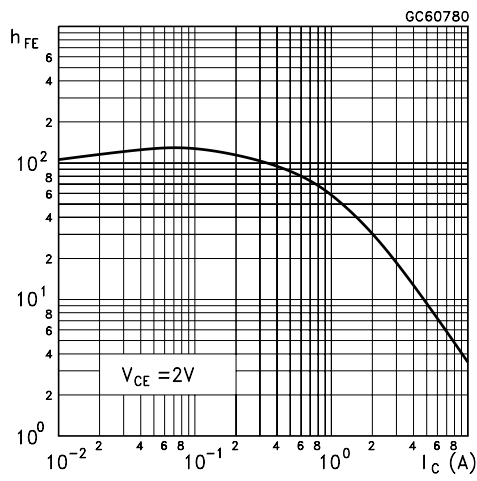
Safe Operating Area



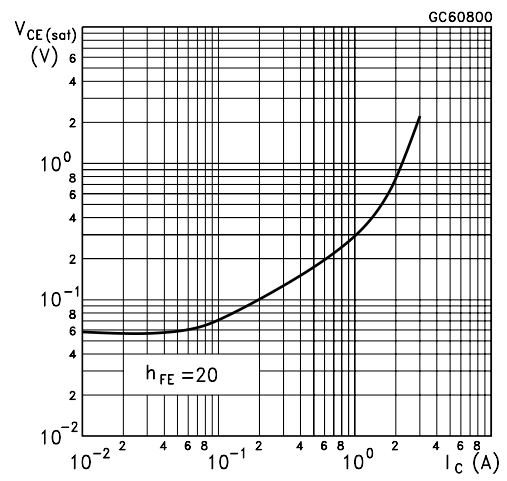
Derating Curves



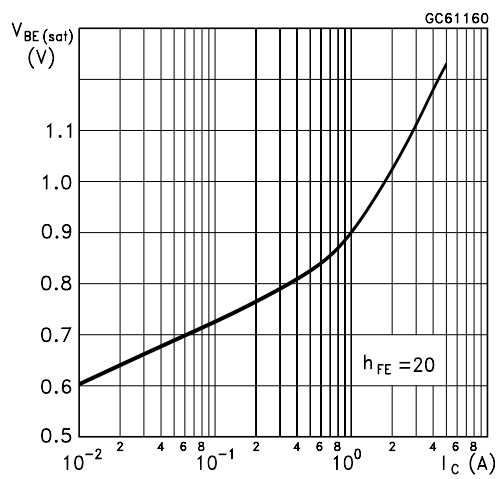
DC Current Gain



Collector-Emitter Saturation Voltage

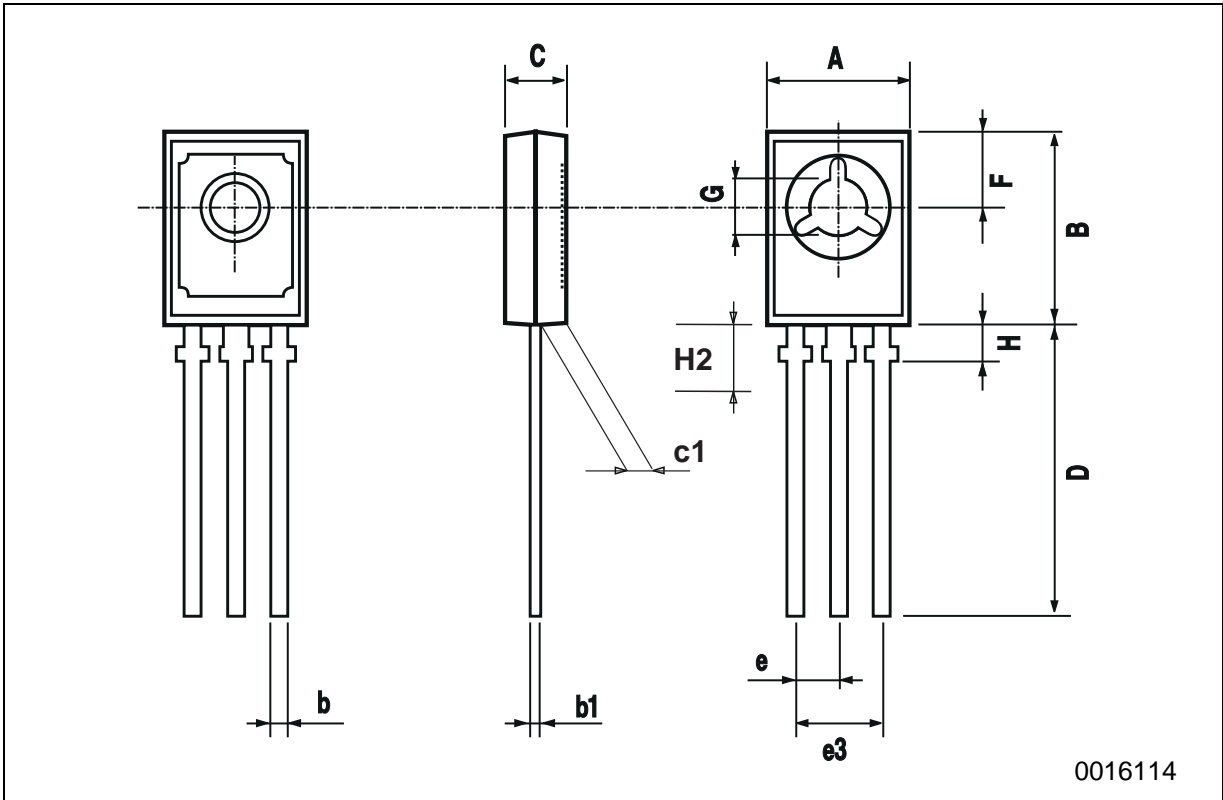


Base-Emitter Saturation Voltage



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



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