

MEDIUM POWER PNP SILICON TRANSISTOR

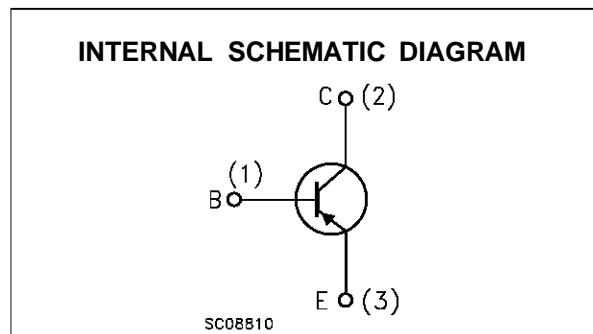
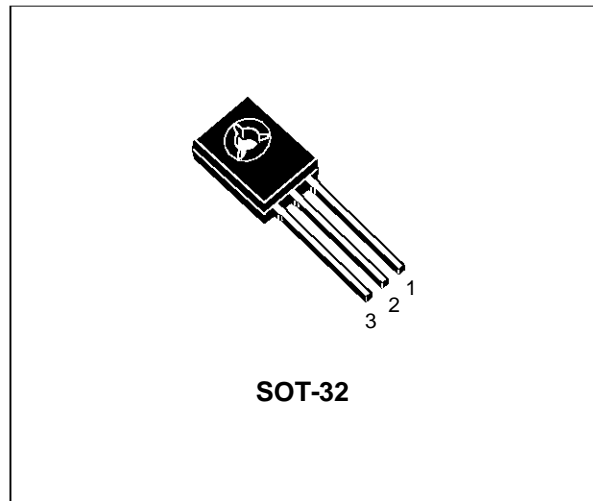
- SGS-THOMSON PREFERRED SALESTYPE
- PNP TRANSISTOR

APPLICATIONS

- GENERAL PURPOSE SWITCHING APPLICATION
- GENERAL PURPOSE AMPLIFIER

DESCRIPTION

The 2N4920 is a silicon epitaxial planar PNP transistors in Jedec SOT-32 plastic package, intended for driver circuits switching and amplifier applications.



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	-1	A
I_{CM}	Collector Peak Current	-3	A
I_B	Base Current	-1	A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ C$	30	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ C$
T_j	Max. Operating Junction Temperature	150	$^\circ C$

2N4920

THERMAL DATA

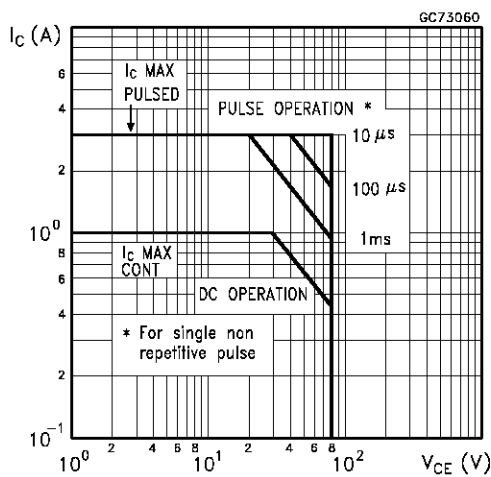
$R_{thj-case}$	Thermal Resistance Junction-case	Max	4.16	$^{\circ}C/W$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

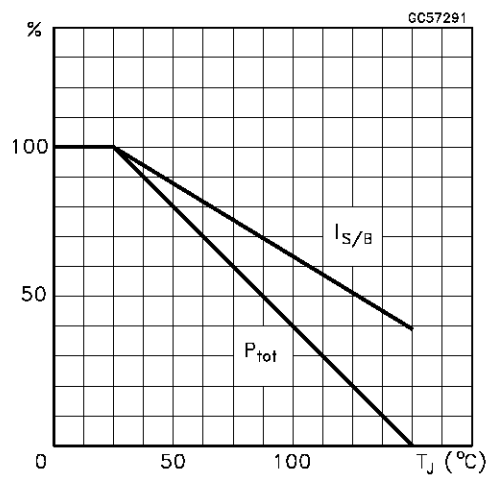
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CE} = \text{rated } V_{CEO}$			-100	μA
I_{CEX}	Collector Cut-off Current ($V_{BE} = -1.5V$)	$V_{CE} = \text{rated } V_{CEO}$ $V_{CE} = \text{rated } V_{CEO}$ $T_C = 125^{\circ}C$			-100 -500	μA μA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CB} = -40 V$			-500	μA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = -5 V$			-1	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = -10 \text{ mA}$	-80			V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = -1 A$ $I_B = -0.1 A$			-0.6	V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = -1 A$ $I_B = -0.1 A$			-1.3	V
V_{BE*}	Base-Emitter Voltage	$I_C = -1 A$ $V_{CE} = -1 V$			-1.3	V
h_{fe}	Small Signal Current Gain	$I_C = -250 \text{ mA}$ $V_{CE} = -10 V$ $f = 1KHz$	25			
f_T	Transition frequency	$I_C = -250 \text{ mA}$ $V_{CE} = -10 V$ $f = 1MHz$	3			MHz
C_{CBO}	Collector Base Capacitance	$I_E = 0$ $V_{CB} = -10 V$ $f = 1KHz$			100	pF

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

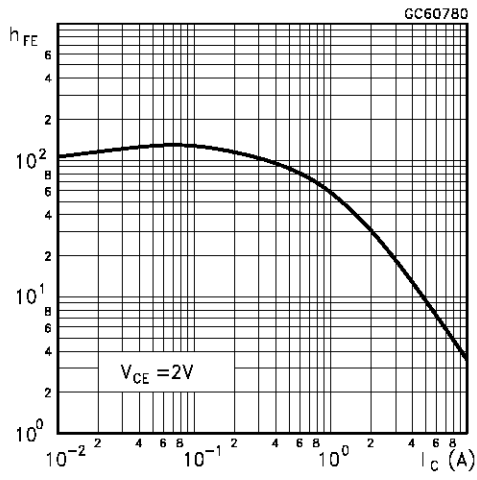
Safe Operating Area



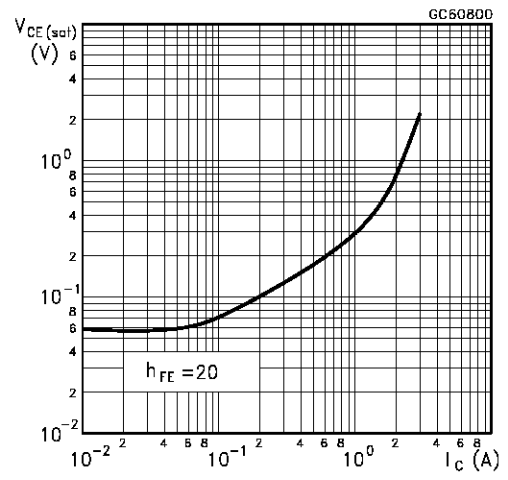
Derating Curve



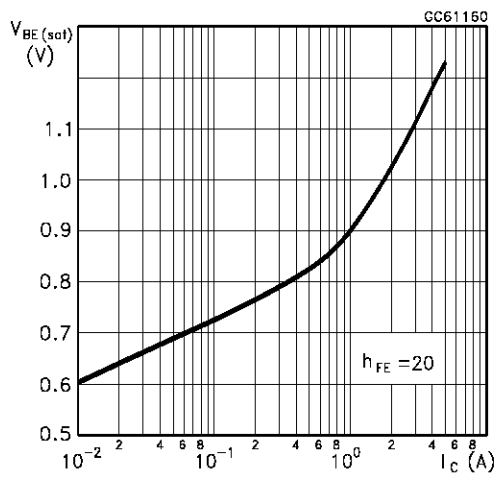
DC Current Gain



Collector Emitter Saturation Voltage

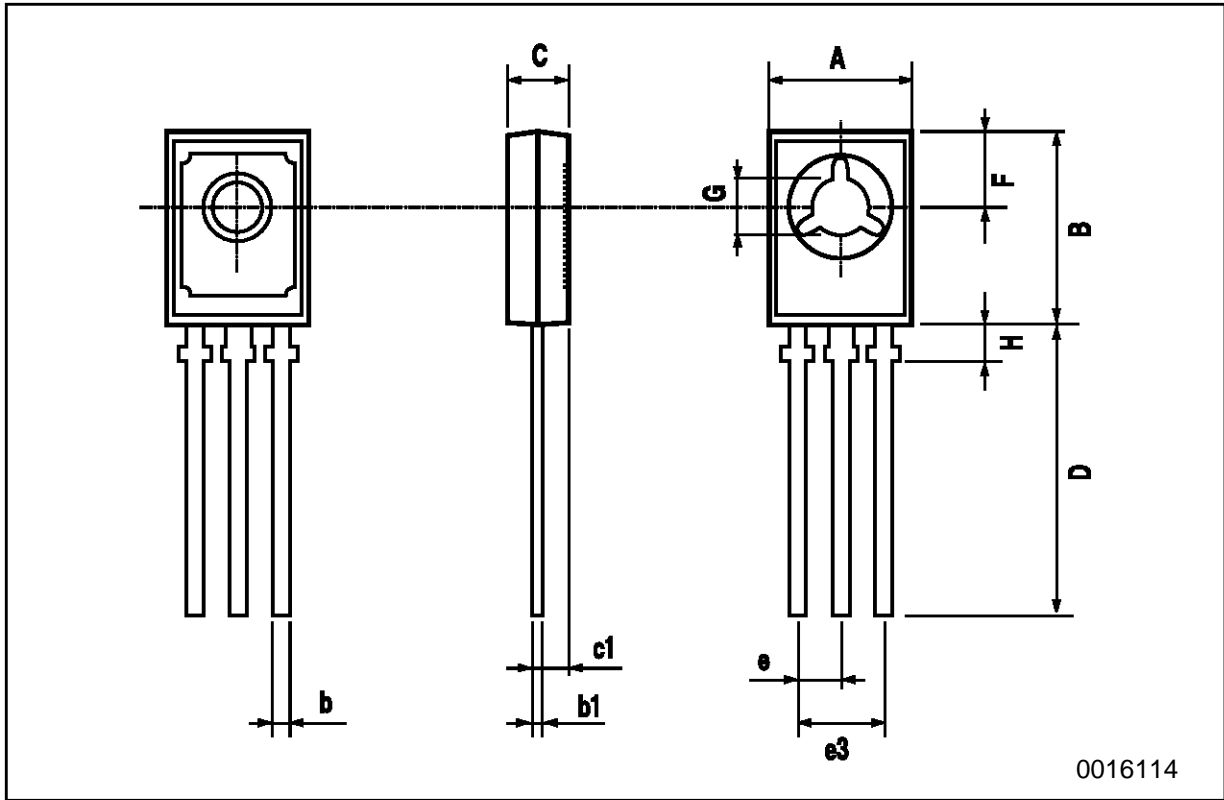


Base Emitter Saturation Voltage



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	0.040		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		2.15			0.084	



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