

## PNP SILICON POWER TRANSISTOR

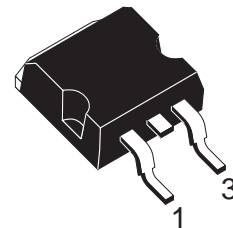
- SURFACE-MOUNTING D<sup>2</sup>PAK (TO-263) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICALLY SIMILAR TO TIP32B

### APPLICATION

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

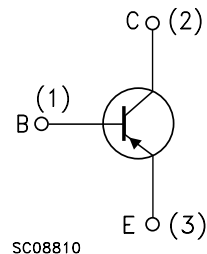
### DESCRIPTION

The MJB32B is manufactured using Epitaxial-base Technology for use in medium power linear and switching applications.



**D2PAK  
(TO-263)**  
(Suffix "T4")

### 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
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	-5	V
$I_C$	Collector Current	-3	A
$I_{CM}$	Collector Peak Current	-5	A
$I_B$	Base Current	-1	A
$P_{tot}$	Total Dissipation at $T_{case} \leq 25\text{ }^\circ\text{C}$ $T_{amb} \leq 25\text{ }^\circ\text{C}$	40	W
		2	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

# MJB32B

## THERMAL DATA

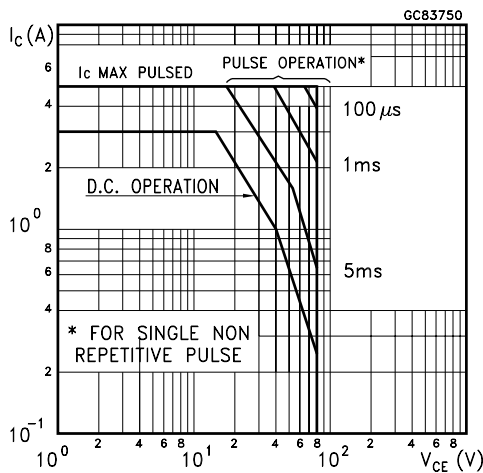
R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	3.12	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	62.5	°C/W

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

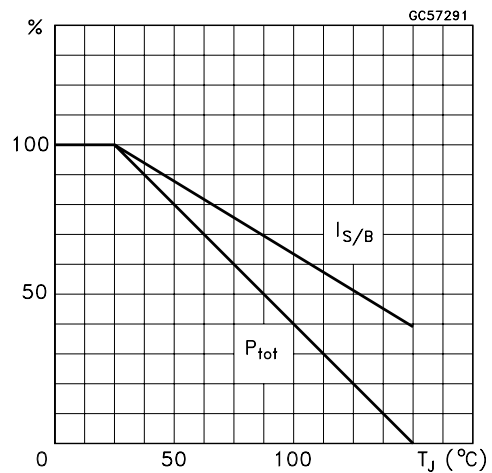
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = -60 V			-50	μA
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0)	V <sub>CE</sub> = -80 V			-20	μA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = -5 V			-0.1	mA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = -30 mA	-80			V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -3 A      I <sub>B</sub> = -375 mA			-1.2	V
V <sub>BE*</sub>	Base-Emitter Voltage	I <sub>C</sub> = -3 A      V <sub>CE</sub> = -4 V			-1.8	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = -1 A      V <sub>CE</sub> = -4 V I <sub>C</sub> = -3 A      V <sub>CE</sub> = -4 V	25 10		50	
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = -0.5 A    V <sub>CE</sub> = -10 V    f = 1 KHz I <sub>C</sub> = -0.5 A    V <sub>CE</sub> = -10 V    f = 1 MHz	20 3			

\* Pulsed : pulse duration = 300 μs, duty cycle ≤ 2%

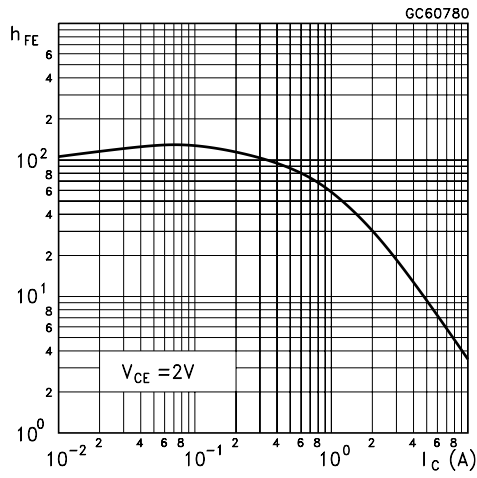
## Safe Operating Area



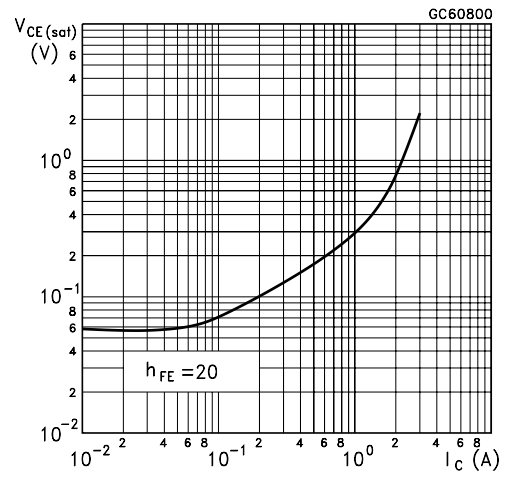
## Derating Curves



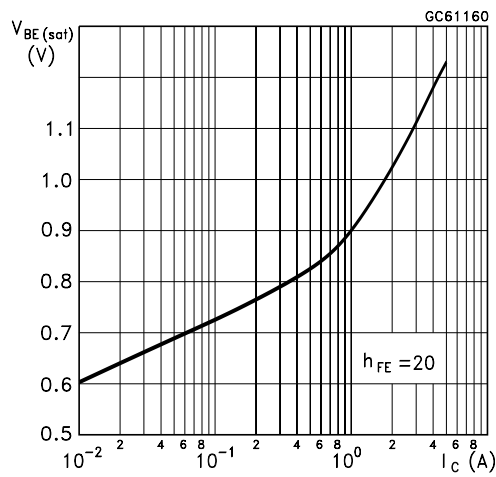
DC Current Gain



Collector-Emitter Saturation Voltage

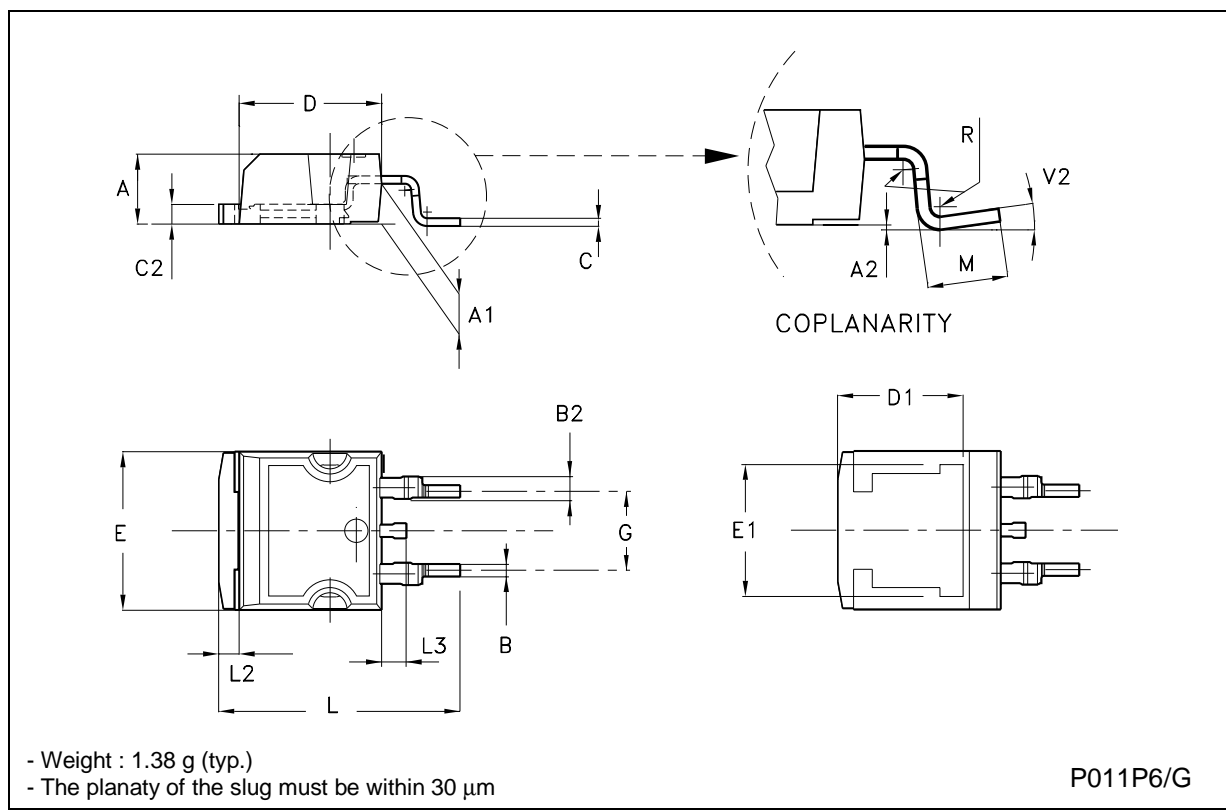


Collector-Base Capacitance



**TO-263 (D<sup>2</sup>PAK) MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
A1	2.49		2.69	0.098		0.106
A2	0.03		0.23	0.001		0.009
B	0.70		0.93	0.027		0.036
B2	1.14		1.70	0.044		0.067
C	0.45		0.60	0.017		0.023
C2	1.23		1.36	0.048		0.053
D	8.95		9.35	0.352		0.368
D1		8.00			0.315	
E	10.00		10.40	0.393		0.409
E1		8.50			0.334	
G	4.88		5.28	0.192		0.208
L	15.00		15.85	0.590		0.624
L2	1.27		1.4	0.050		0.055
L3	1.40		1.75	0.055		0.068
M	2.40		3.2	0.094		0.126
R		0.40			0.016	
V2	0°		8°	0°		8°



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