

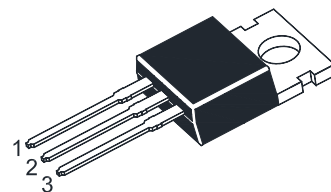
TIP32/A/B/C-HAF

PNP Silicon Epitaxial Planar Transistor

for power switching and amplifier applications

Features

- Halogen and Antimony Free(HAF), RoHS compliant



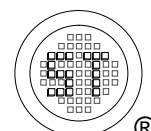
1. Base 2. Collector 3. Emitter
TO-220FB Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40 60 80 100	V
Collector Emitter Voltage	$-V_{CEO}$	40 60 80 100	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	3	A
Peak Collector Current, Pulsed	$-I_{CM}$	5	A
Power Dissipation	P_{tot}	2	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Thermal Characteristics

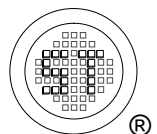
Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 4\text{ V}$, $-I_C = 1\text{ A}$ at $-V_{CE} = 4\text{ V}$, $-I_C = 3\text{ A}$	h_{FE} h_{FE}	25 10	- 50	- -
Collector Emitter Sustaining Voltage at $-I_C = 30\text{ mA}$ TIP32 TIP32A TIP32B TIP32C	$-V_{CEO(sus)}$	40 60 80 100	- - - -	V
Collector Cutoff Current at $-V_{CE} = 40\text{ V}$ at $-V_{CE} = 60\text{ V}$ at $-V_{CE} = 80\text{ V}$ at $-V_{CE} = 100\text{ V}$ TIP32 TIP32A TIP32B TIP32C	$-I_{CES}$	- - - -	0.2 0.2 0.2 0.2	mA
Collector Cutoff Current at $-V_{CE} = 30\text{ V}$ at $-V_{CE} = 60\text{ V}$ TIP32/32A TIP32B/32C	$-I_{CEO}$	- -	0.3 0.3	mA
Emitter Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	1	mA
Collector Emitter Saturation Voltage at $-I_C = 3\text{ A}$, $-I_B = 375\text{ mA}$	$-V_{CE(sat)}$	-	1.2	V
Base Emitter Turn-On Voltage at $-V_{CE} = 4\text{ V}$, $-I_C = 3\text{ A}$	$-V_{BE(on)}$	-	1.8	V
Transition Frequency at $-V_{CE} = 10\text{ V}$, $-I_C = 500\text{ mA}$, $f = 1\text{ MHz}$	f_T	3	-	MHz



Electrical Characteristics Curves

Fig. 1 DC Current Gain vs. Collector Current

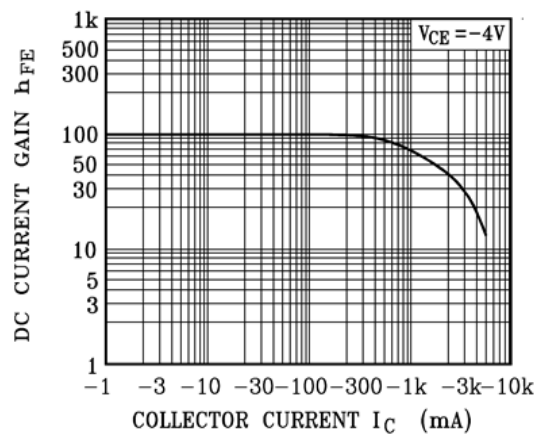


Fig. 2 Saturation Voltage vs. Collector Current

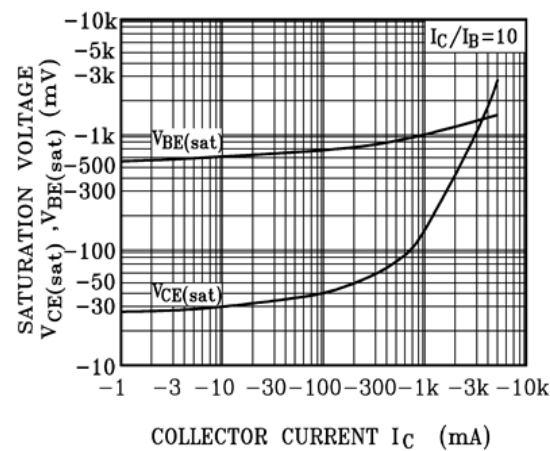
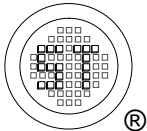
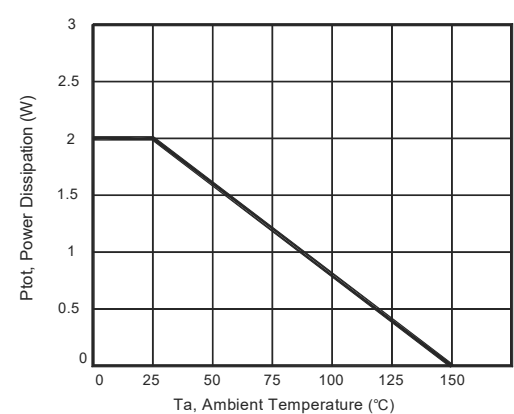


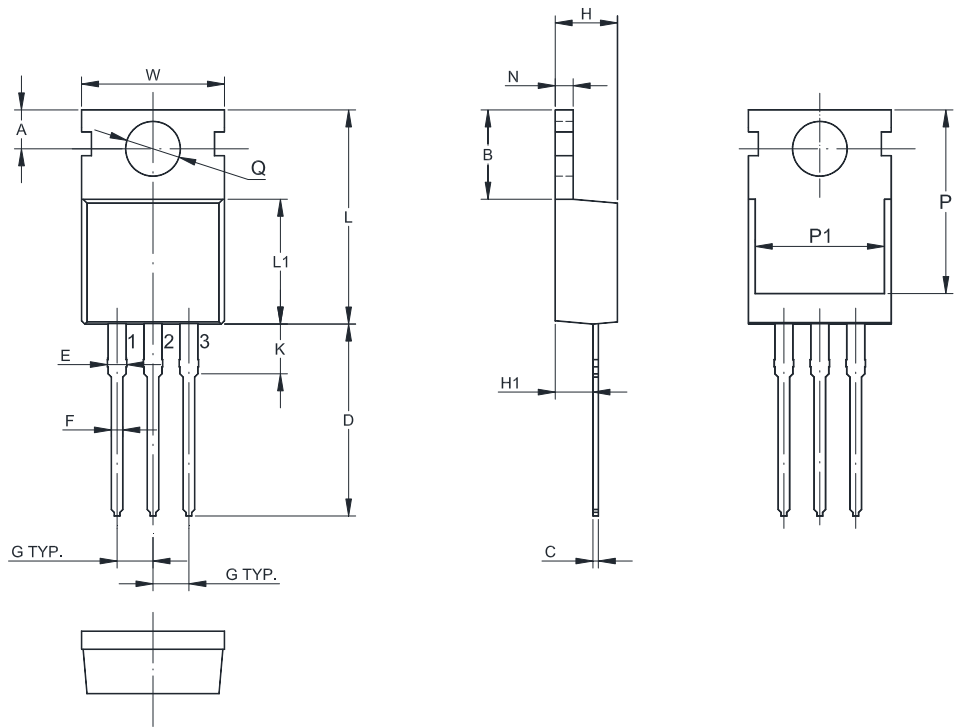
Fig. 3 Power Derating Curve



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Package Outline Dimensions (Units: mm)

TO-220FB



UNIT	A	B	C	D	E	F	G	W	H	H1	K	L	L1	N
mm	2.9	6.8	0.7	15	1.5	0.9	2.54	10.2	4.7	2.5	3.1	16.8	9.4	1.4
	2.7	6.4	0.3	11	1.1	0.7	Typ.	9.8	4.3	2.2	2.7	14.8	9.0	1.2

UNIT	P	P1	Q
mm	13.3	8.2	3.7
	12.7	7.6	3.5

Marking information

" ***** = TIP32/A/B/C " = Part No.

" ***** " = Date Code Marking

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