

TIP122-HAF

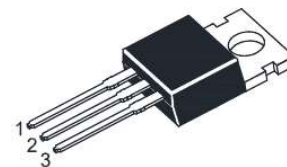
NPN Silicon Power Darlington Transistor

Features

- Halogen and Antimony Free(HAF), RoHS compliant

Applications

- For power switching and amplifier



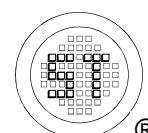
1.Base 2.Collector 3.Emitter
TO-220FB Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	5	A
Collector Current (Pulse)	I_{CP}	8	A
Base Current	I_B	0.12	A
Power Dissipation ($T_a = 25\text{ }^{\circ}\text{C}$)	P_C	2	W
Power Dissipation ($T_c = 25\text{ }^{\circ}\text{C}$)	P_C	65	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

Thermal Characteristics

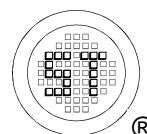
Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Case	$R_{\theta JC}$	1.9	$^{\circ}\text{C/W}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	$^{\circ}\text{C/W}$



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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 3\text{ V}$, $I_C = 0.5\text{ A}$ at $V_{CE} = 3\text{ V}$, $I_C = 3\text{ A}$	h_{FE} h_{FE}	1000 1000	- -	- -
Collector Base Cutoff Current at $V_{CB} = 100\text{ V}$	I_{CBO}	-	0.2	mA
Collector Emitter Cutoff Current at $V_{CE} = 50\text{ V}$	I_{CEO}	-	0.5	mA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	2	mA
Collector Emitter Sustaining Voltage at $I_C = 30\text{ mA}$	$V_{CEO(sus)}$	100	-	V
Collector Emitter Saturation Voltage at $I_C = 3\text{ A}$, $I_B = 12\text{ mA}$ at $I_C = 5\text{ A}$, $I_B = 20\text{ mA}$	$V_{CE(sat)}$	- -	2 4	V
Base Emitter On Voltage at $V_{CE} = 3\text{ V}$, $I_C = 3\text{ A}$	$V_{BE(on)}$	-	2.5	V



Electrical Characteristics Curves

Fig 1. DC Current Gain vs. Collector Current

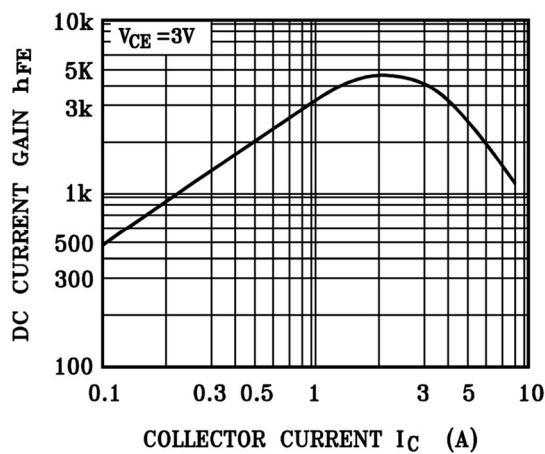


Fig 2. $V_{CE(sat)}$, $V_{BE(sat)}$ vs. Collector Current

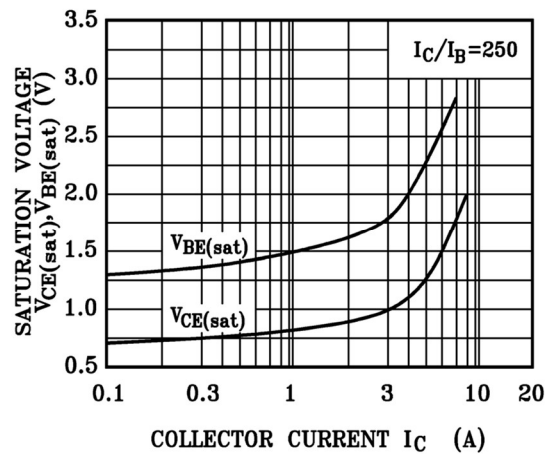
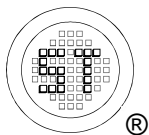
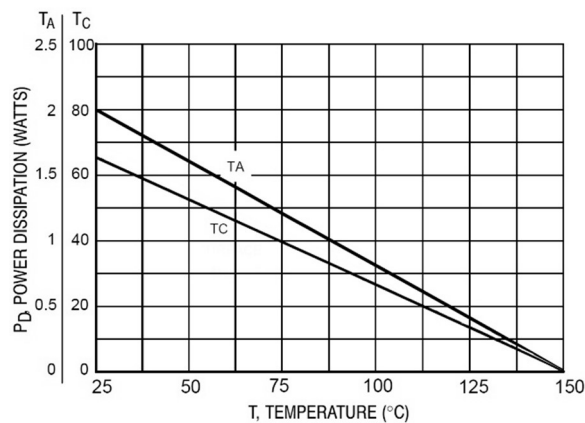


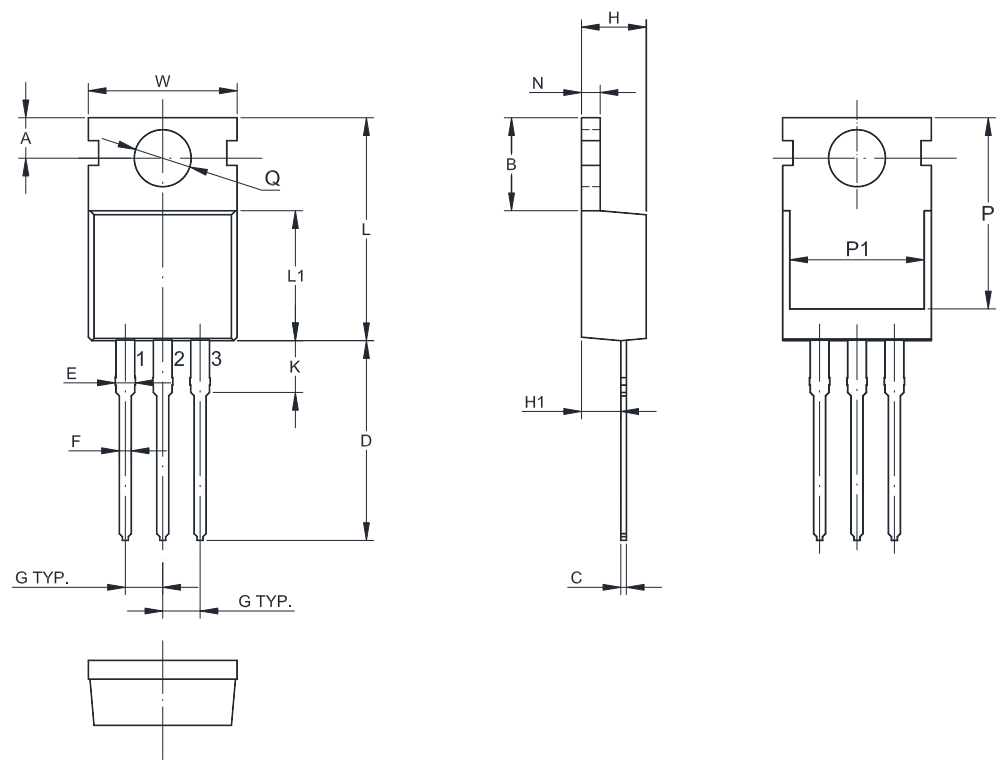
Fig 3. Power Derating Curve



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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

" TIP122 " = Part No.

" **** " = Date Code Marking

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