



TIP122FP
TIP127FP

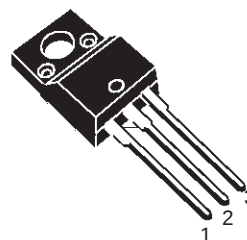
COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- FULLY MOLDED ISOLATED PACKAGE
- 2000 V DC ISOLATION (U.L. COMPLIANT)

DESCRIPTION

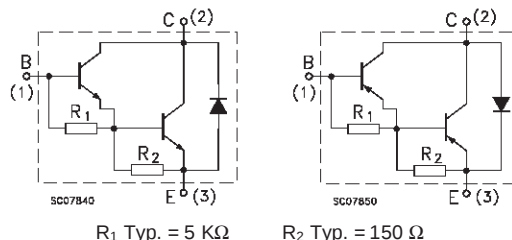
The TIP122FP is a silicon epitaxial-base NPN power transistor in monolithic Darlington configuration Jedec TO-220FP fully molded isolated package, intended for use in power linear and switching applications.

The complementary PNP type is TIP127FP.



TO-220FP

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	TIP122FP	
		PNP	TIP127FP	
V _{CBO}	Collector-Base Voltage (I _E = 0)	100		V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)	100		V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	5		V
I _C	Collector Current	5		A
I _{CM}	Collector Peak Current	8		A
I _B	Base Current	0.1		A
P _{tot}	Total Dissipation at T _{case} ≤ 25 °C T _{amb} ≤ 25 °C	29 2		W W
T _{stg}	Storage Temperature	-65 to 150		°C
T _j	Max. Operating Junction Temperature	150		°C

* For PNP types voltage and current values are negative.

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	4.3	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	62.5	$^{\circ}C/W$

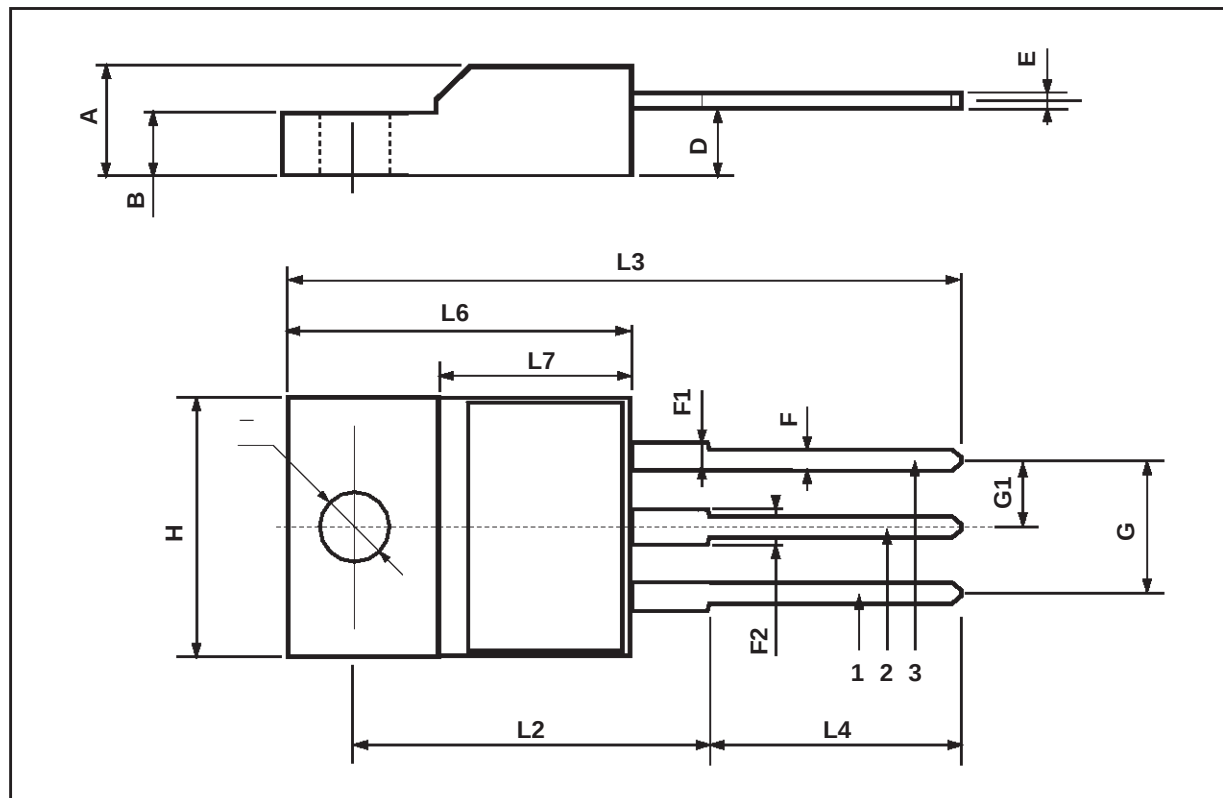
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 50\text{ V}$				0.5	mA
I_{CBO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 100\text{ V}$				0.2	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$				2	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 30\text{ mA}$		100			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 3\text{ A}$	$I_B = 12\text{ mA}$			2	V
		$I_C = 5\text{ A}$	$I_B = 20\text{ mA}$			4	V
$V_{BE(on)}^*$	Base-Emitter Voltage	$I_C = 3\text{ A}$	$V_{CE} = 3\text{ V}$			2.5	V
h_{FE}^*	DC Current Gain	$I_C = 0.5\text{ A}$	$V_{CE} = 3\text{ V}$	1000			
		$I_C = 3\text{ A}$	$V_{CE} = 3\text{ V}$	1000			

* For PNP types voltage and current values are negative.

TO-220FP MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.4		4.6	0.173		0.181
B	2.5		2.7	0.098		0.106
D	2.5		2.75	0.098		0.108
E	0.45		0.7	0.017		0.027
F	0.75		1	0.030		0.039
F1	1.15		1.7	0.045		0.067
F2	1.15		1.7	0.045		0.067
G	4.95		5.2	0.195		0.204
G1	2.4		2.7	0.094		0.106
H	10		10.4	0.393		0.409
L2		16			0.630	
L3	28.6		30.6	1.126		1.204
L4	9.8		10.6	0.385		0.417
L6	15.9		16.4	0.626		0.645
L7	9		9.3	0.354		0.366
Ø	3		3.2	0.118		0.126



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