

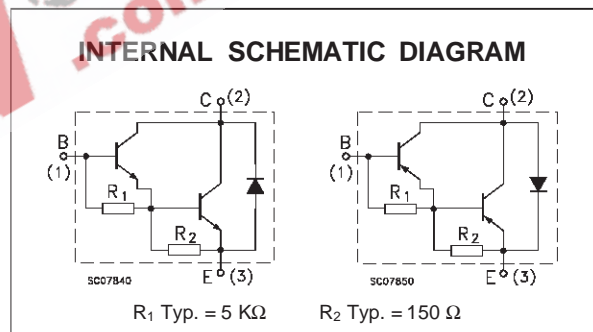
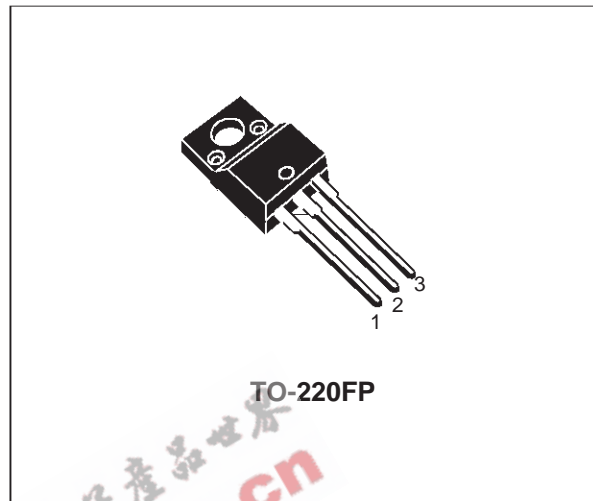
**COMPLEMENTARY SILICON POWER  
DARLINGTON TRANSISTORS**

- 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.



**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 $T_{case} \leq 25^\circ C$ $T_{amb} \leq 25^\circ C$		29	W
			2	W
$T_{stg}$	Storage Temperature		-65 to 150	$^\circ C$
$T_j$	Max. Operating Junction Temperature		150	$^\circ C$

\* For PNP types voltage and current values are negative.

## TIP122FP / TIP127FP

### THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	4.3	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	62.5	°C/W

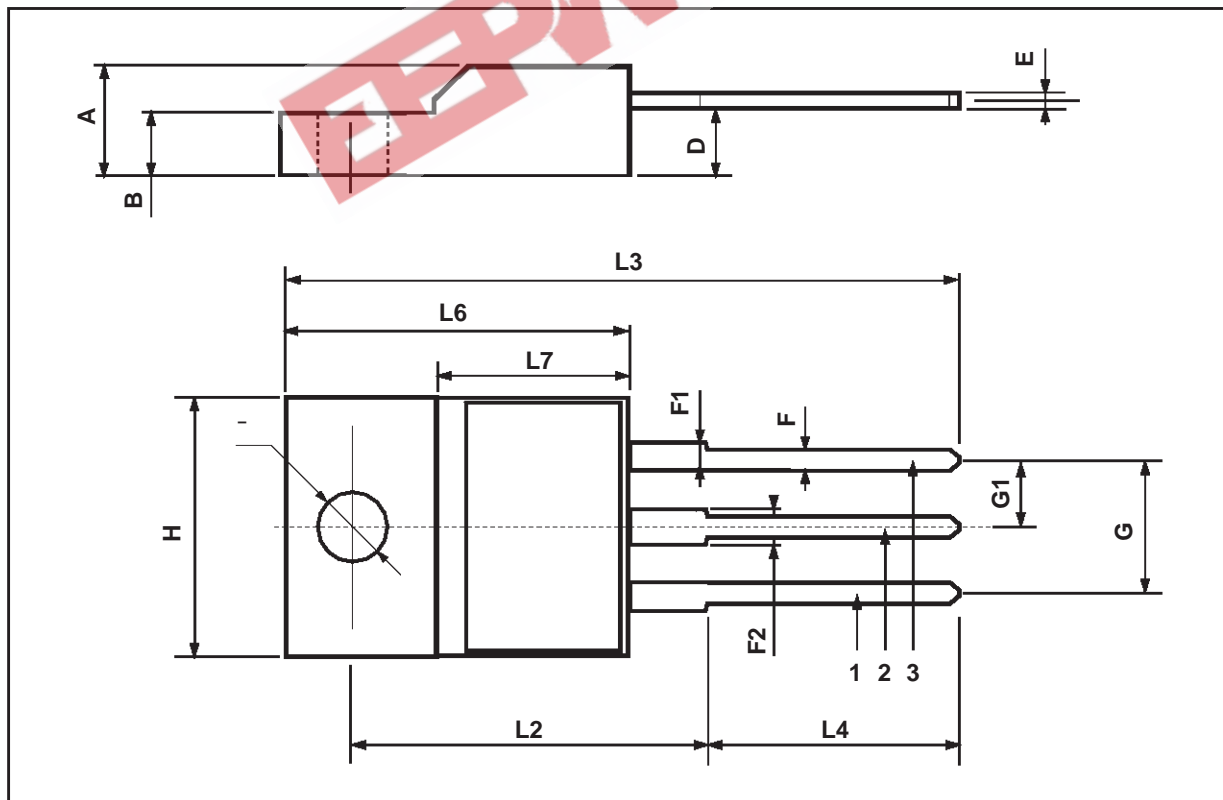
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

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> = 50 V			0.5	mA
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 100 V			0.2	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			2	mA
V <sub>CEO(sus)</sub> *	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 30 mA	100			V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3 A I <sub>C</sub> = 5 A			2 4	V V
V <sub>BE(on)</sub> *	Base-Emitter Voltage	I <sub>C</sub> = 3 A V <sub>CE</sub> = 3 V			2.5	V
h <sub>FE</sub> *	DC Current Gain	I <sub>C</sub> = 0.5 A I <sub>C</sub> = 3 A			1000 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
∅	3		3.2	0.118		0.126



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