

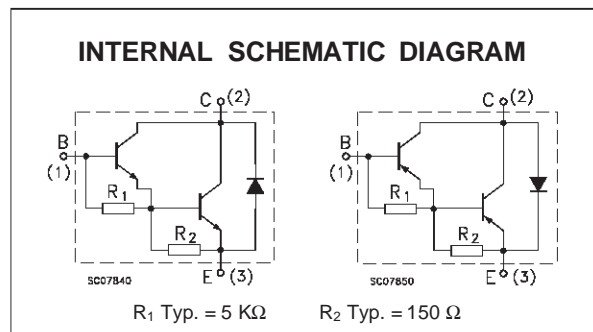
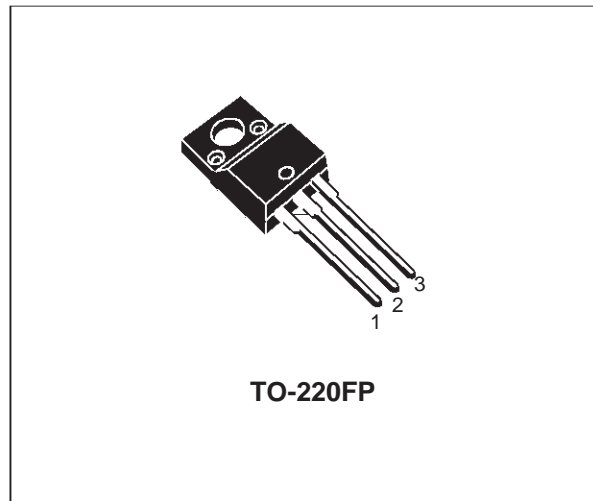
**COMPLEMENTARY SILICON POWER
DARLINGTON TRANSISTORS**

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

* For PNP types voltage and current values are negative.

TIP122FP / TIP127FP

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	$^{\circ}C/W$

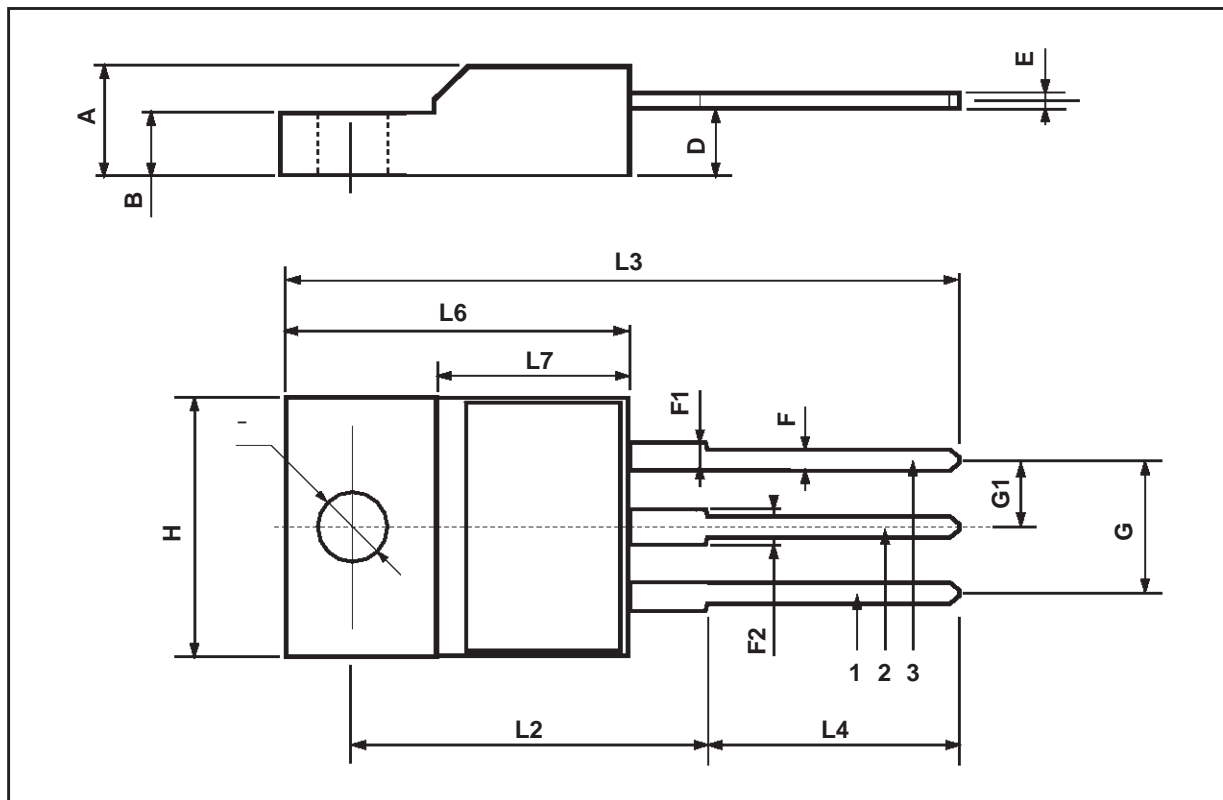
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 50 V$			0.5	mA
I_{CBO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 100 V$			0.2	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5 V$			2	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 30 mA$	100			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 3 A$ $I_C = 5 A$	$I_B = 12 mA$ $I_B = 20 mA$		2 4	V V
$V_{BE(on)}^*$	Base-Emitter Voltage	$I_C = 3 A$	$V_{CE} = 3 V$		2.5	V
h_{FE}^*	DC Current Gain	$I_C = 0.5 A$ $I_C = 3 A$	$V_{CE} = 3 V$ $V_{CE} = 3 V$	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
Ø	3		3.2	0.118		0.126



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