

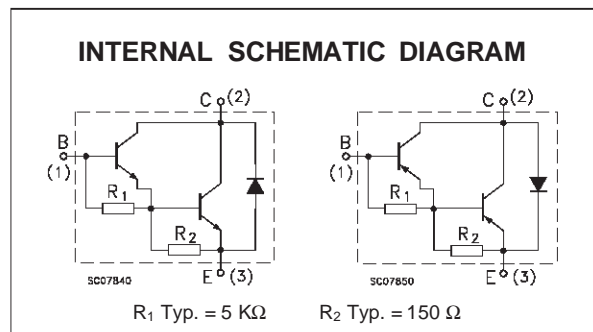
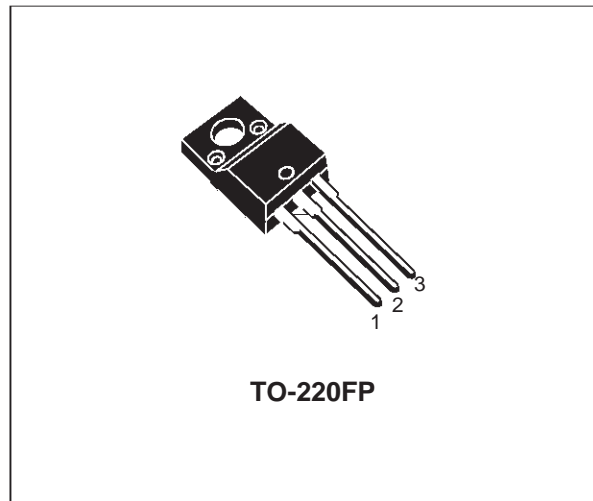
**COMPLEMENTARY SILICON POWER  
DARLINGTON TRANSISTORS**

- 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	$^{\circ}C/W$

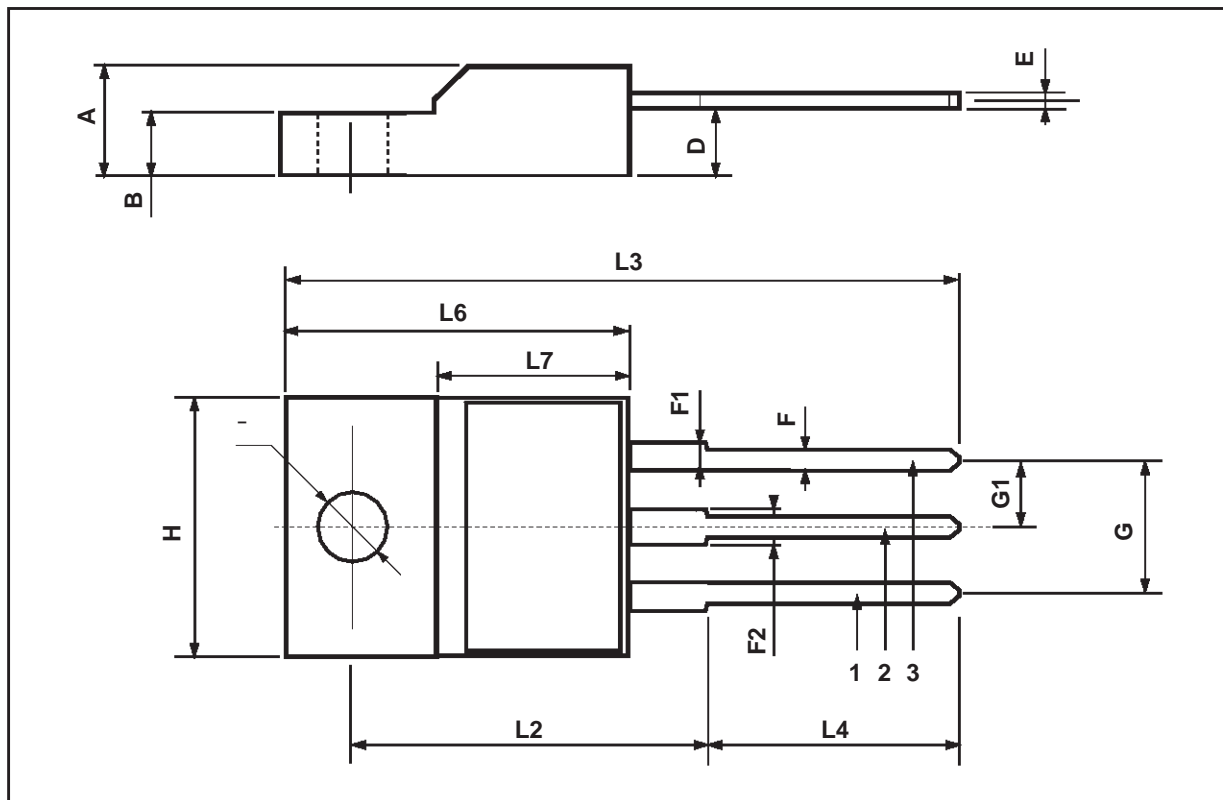
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

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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