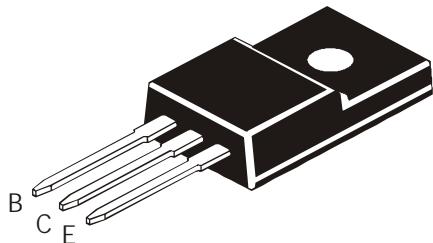


## NPN/PNP SILICON POWER DARLINGTON TRANSISTORS



TIP122F NPN  
TIP127F PNP  
TO-220FP

**Designed for General-Purpose Amplifier and Low-Speed Switching Applications.**

### ABSOLUTE MAXIMUM RATINGS(Ta=25deg C)

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Base Voltage	VCBO	100	V
Collector -Emitter Voltage	VCEO	100	V
Emitter Base Voltage	VEBO	5.0	V
Collector Current -Continuous	IC	5.0	A
Collector Current (Peak)	ICM	8.0	A
Base Current	IB	120	mA
Total Power Dissipation @ Tc=25 deg C	PD	65	W
Derate Above 25 deg C		0.52	W/deg C
Total Power Dissipation @ Ta=25 deg C	PD	2.0	W
Derate Above 25 deg C		0.016	W/deg C
Unclamped Inductive Load Energy (1)	E	50	mj
Junction Temperature	Tj	150	deg C
Storage Temperature Range	Tstg	-65 to +150	deg C
<b> THERMAL RESISTANCE</b>			
From Junction to Ambient	Rth(j-a)	62.5	deg C/W
From Junction to Case	Rth(j-c)	1.92	deg C/W

(1) IC=1A, L=100mH, P.R.F.=10Hz, VCC=20V, RBE=100 ohms

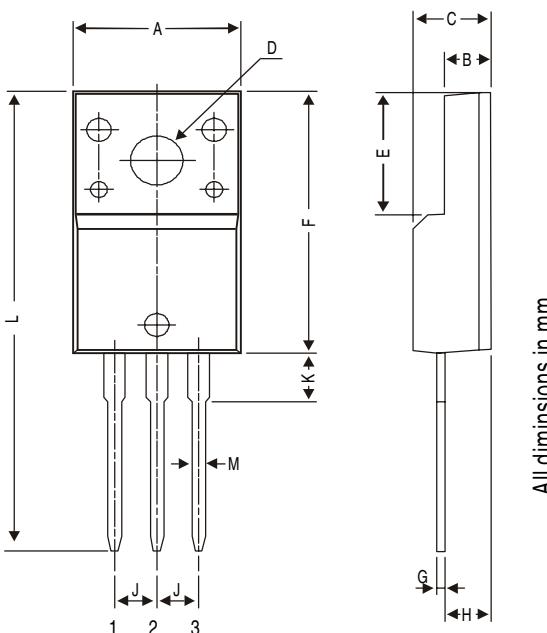
### ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter (sus) Voltage	VCEO (sus) *	IC=100mA, IB=0	100	-	V
Collector Cut off Current	ICBO	VCB=100V, IE=0	-	0.2	mA
	ICEO	IB=0, VCE=50V	-	0.5	mA
Emitter Cut off Current	IEBO	VEB=5V, IC=0	-	2.0	mA
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=3A, IB=12mA	-	2.0	V
		IC=5A, IB=20mA	-	4.0	V
Base Emitter on Voltage	VBE(on) *	IC=3A, VCE=3V	-	2.5	V
DC Current Gain	hFE*	IC=0.5A, VCE=3V	1.0	-	K
		IC=3A, VCE=3V	1.0	-	K

**ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Specified)**
**TIP122F/127F**

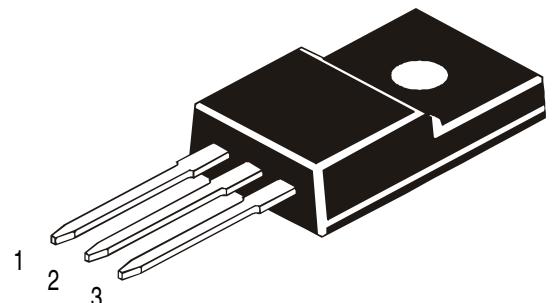
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Small Signal Current Gain	/hfe/	IC=3A, VCE=4V f=1MHz	4.0	-	
Output Capacitance	Cob	Cob=10V, IE=0, f=0.1MHz	- 300	200	pF
		PNP			
		NPN			

\*Pulse test: Pulse Width=300 us; Duty Cycle=2%

**TO-220FP (Fully Isolated) Plastic Package**


DIM	MIN	MAX
A	9.96	10.36
B	2.60	3.00
C	4.50	4.90
D	3.10	3.30
E	7.90	8.20
F	16.87	17.27
G	0.45	0.50
H	2.56	2.96
J	2.34	2.74
K	—	3.08
L	—	30.05
M	—	0.80

All dimensions in mm.


**PIN CONFIGURATION**

1. BASE
2. COLLECTOR
3. Emitter

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220FP	200 pcs/polybag 50 pcs/tube	396 gm/200 pcs 120 gm/50 pcs	3" x 7.5" x 7.5" 3.5" x 3.7" x 21.5"	1.0K 1.0K	17" x 15" x 13.5" 19" x 19" x 19"	16.0K 10.0K	36 kgs 29 kgs

