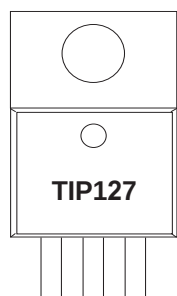
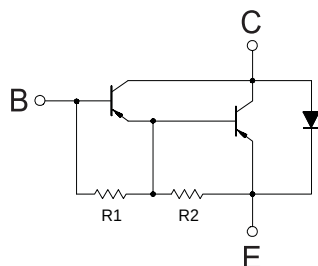


TO-220-3L Plastic-Encapsulate Transistors**TIP127**

DARLINGTON TRANSISTOR (PNP)

FEATURES

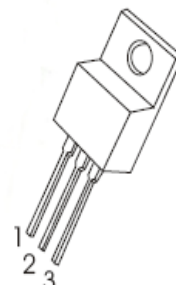
- Medium Power Complementary Silicon Transistors

MARKING**Equivalent Circuit****TO-220-3L**

1. BASE

2. COLLECTOR

3. EMITTER

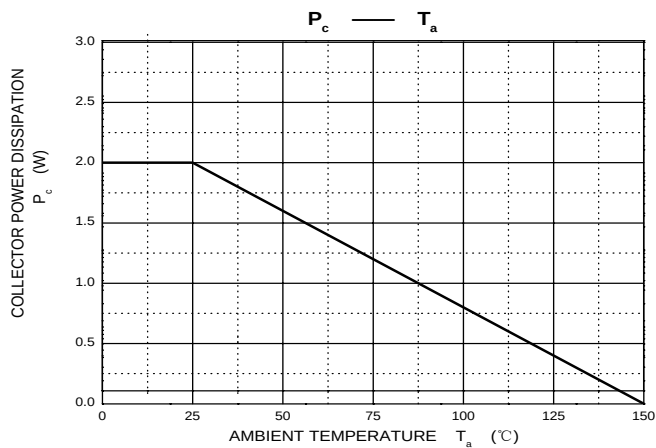
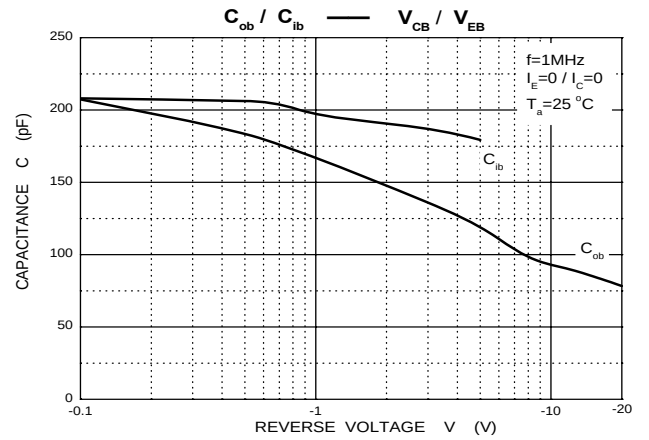
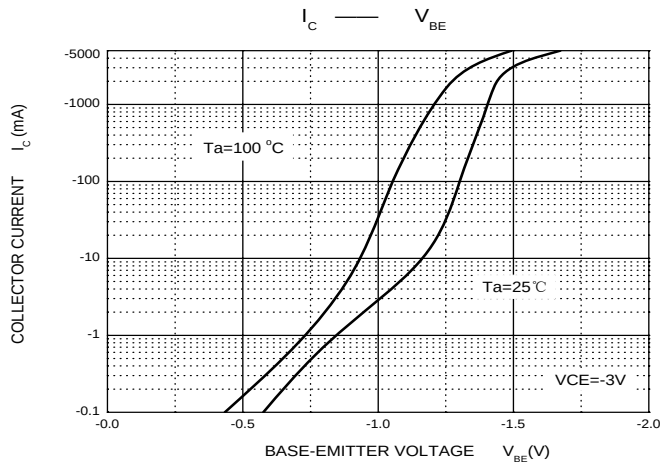
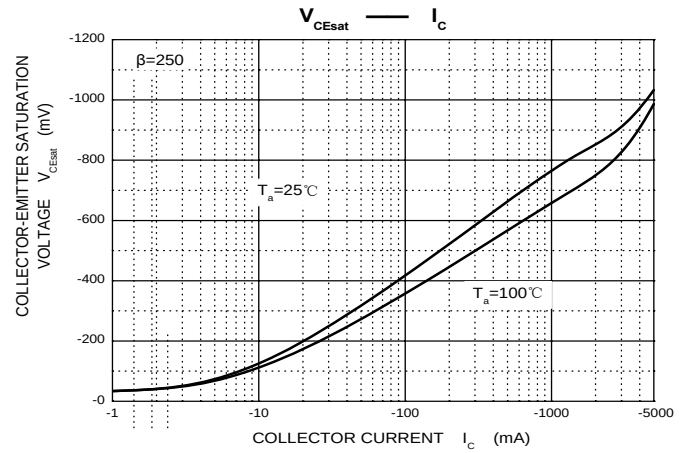
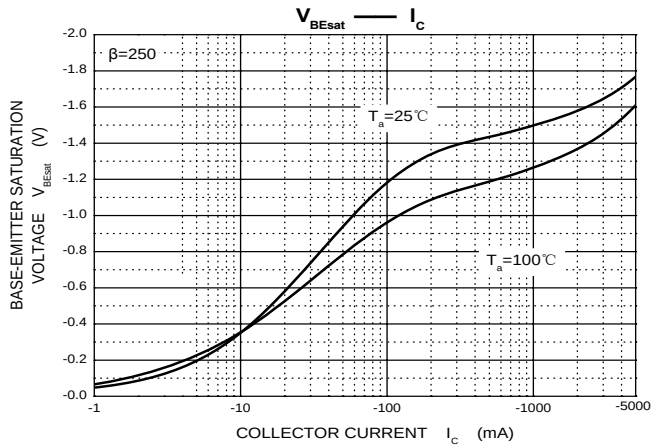
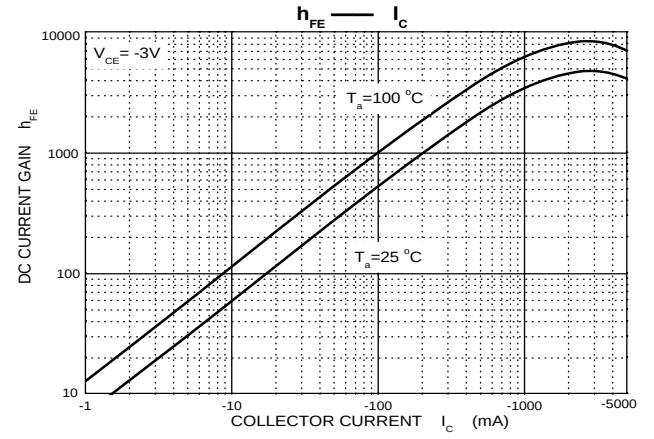
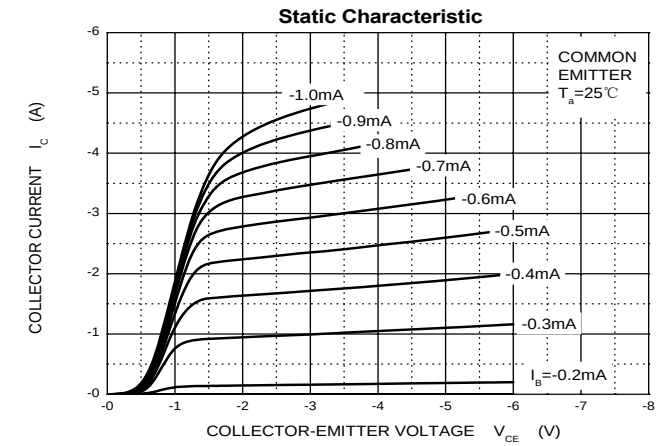
**MAXIMUM RATINGS** ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-5	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	$^{\circ}\text{C/W}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	1.92	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

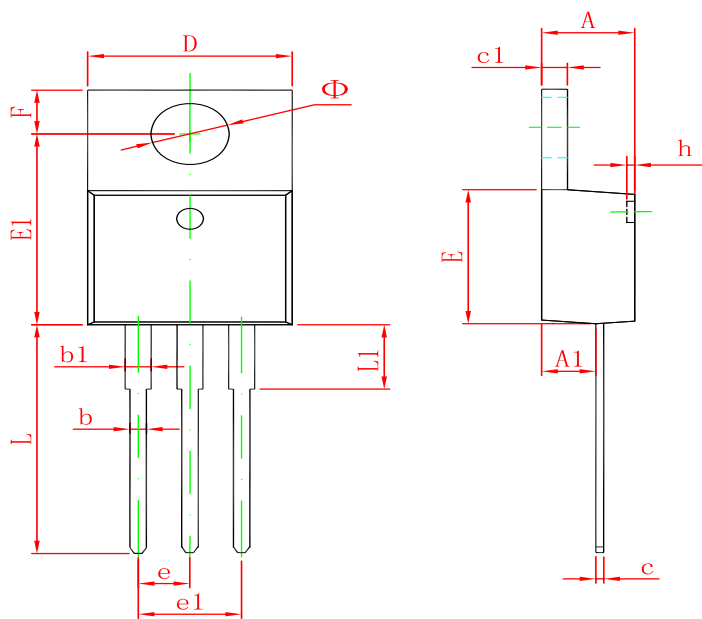
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -1\text{mA}, I_E = 0$	-100		V
Collector-emitter breakdown voltage	$V_{CEO(SUS)}$	$I_C = -30\text{mA}, I_B = 0$	-100		V
Collector cut-off current	I_{CBO}	$V_{CB} = -100\text{V}, I_E = 0$		-0.2	mA
Collector cut-off current	I_{CEO}	$V_{CE} = -50\text{V}, I_B = 0$		-0.5	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		-2	mA
DC current gain	$h_{FE(1)}$	$V_{CE} = -3\text{V}, I_C = -0.5\text{A}$	1000		
	$h_{FE(2)}$	$V_{CE} = -3\text{V}, I_C = -3\text{A}$	1000	12000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{A}, I_B = -12\text{mA}$ $I_C = -5\text{A}, I_B = -20\text{mA}$		-2 -4	V
Base-emitter voltage	V_{BE}	$V_{CE} = -3\text{V}, I_C = -3\text{A}$		-2.5	V
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 0.1\text{MHz}$		300	pF

Typical Characteristics



Package Outline Dimensions (TO-220-3L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155