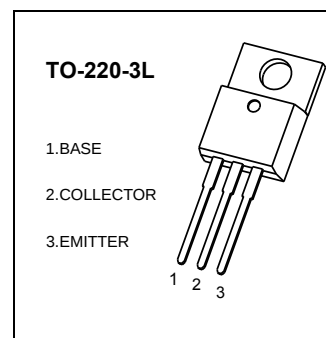


TO-220-3L Plastic-Encapsulate Transistors

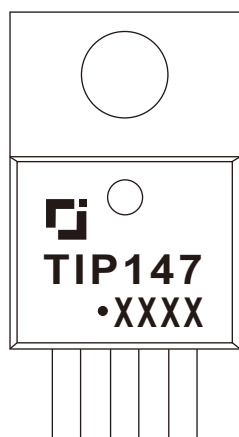
TIP147 Darlington Transistor (PNP)

FEATURES

- Monolithic Darlington Configuration
- Integrated Antiparallel Collector-Emitter Diode

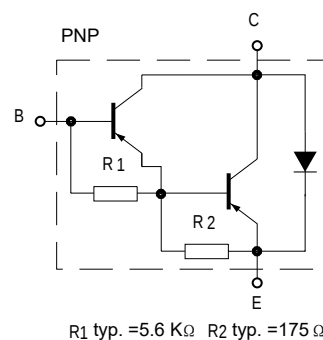


MARKING



TIP147=Device code
Solid dot=Green moldinn compound device,
if none,the normal device
XXXX=Code

Equivalent Circuit



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

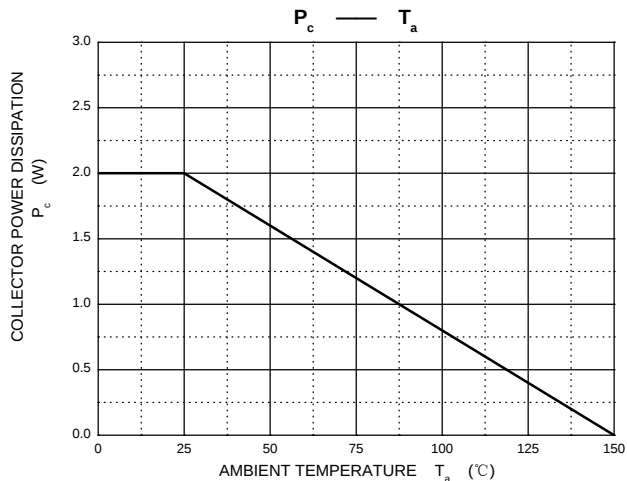
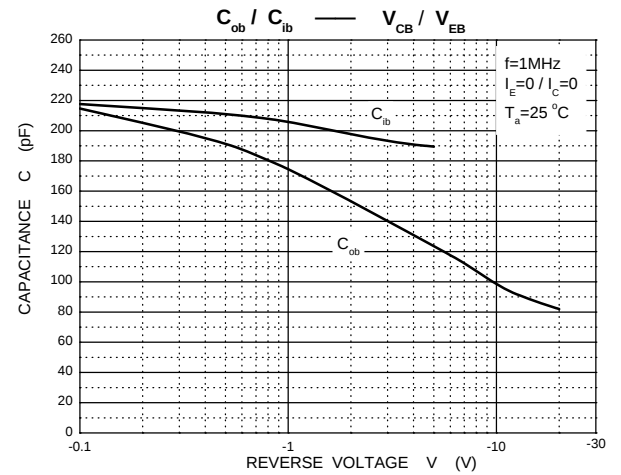
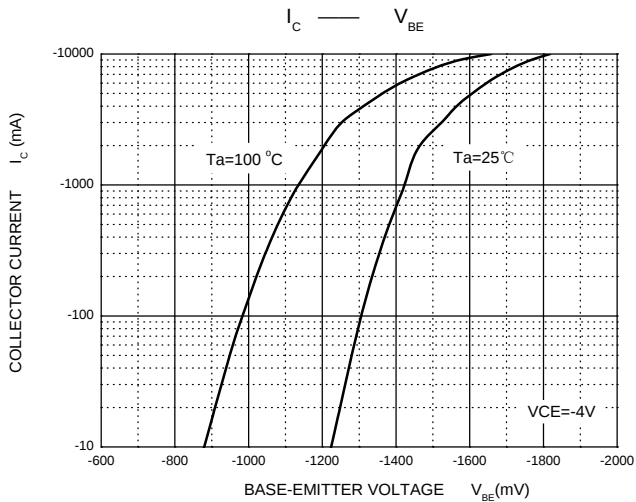
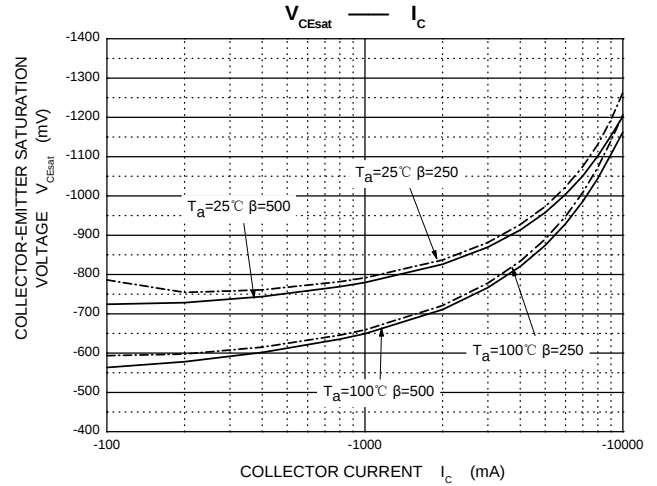
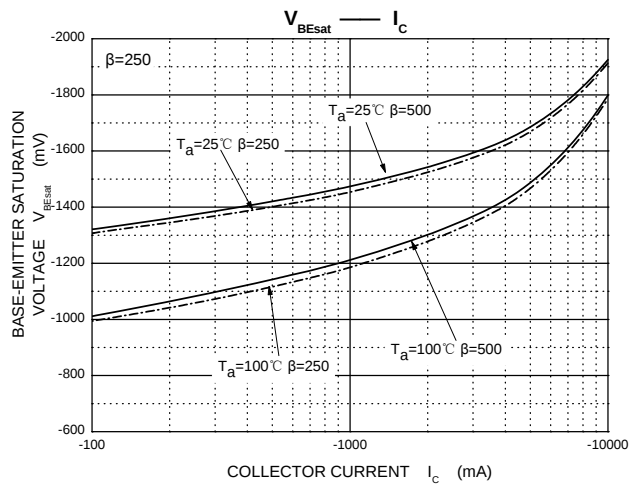
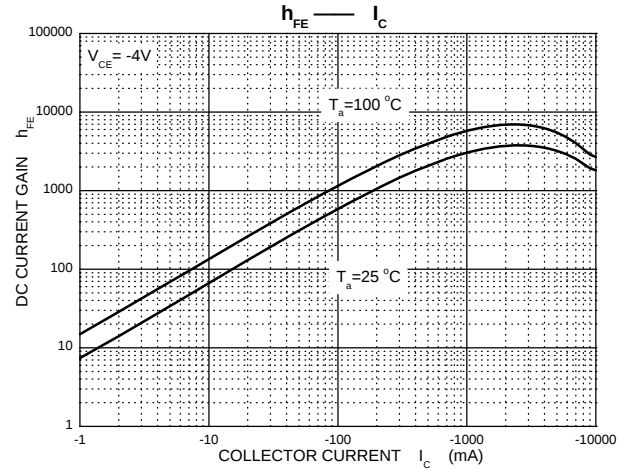
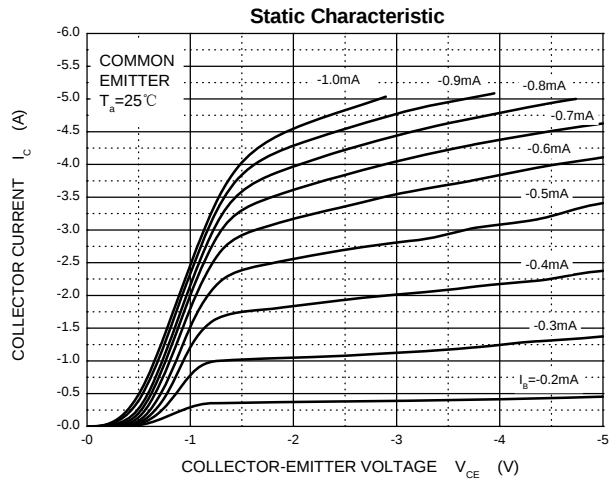
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-10	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	62.5	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

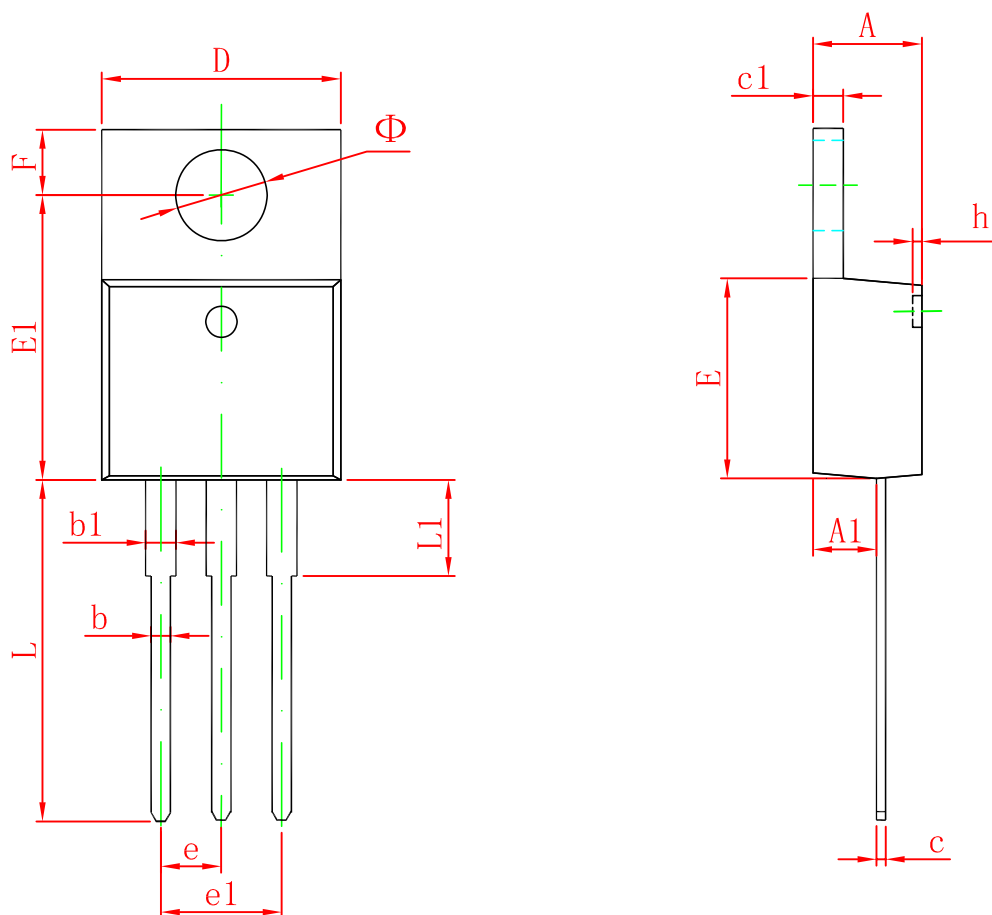
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltag	V _{(BR)CBO}	I _C =-1mA, I _E =0	-100			V
Collector-emitter sustaining voltage	V _{CEO(sus)} *	I _C =-30mA, I _B =0	-100			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10mA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-100V, I _E =0			-1	mA
Collector cut-off current	I _{CEO}	V _{CE} =-50V, I _C =0			-2	mA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0			-2	mA
DC current gain	h _{FE} (1)	V _{CE} =-4V, I _C =-5A	1000		12000	
	h _{FE} (2)	V _{CE} =-4V, I _C =-10A	50			
Collector-emitter saturation voltage	V _{CE(sat)(1)}	I _C =-5A, I _B =-10mA			-2	V
	V _{CE(sat)(2)}	I _C =-10A, I _B =-40mA			-3	V
Base-emitter voltage	V _{BE}	V _{CE} =-4V, I _C =-10A			-3	V

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

Typical Characteristics



TO-220-3L Package Outline Dimensions



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