EPITAXIAL SILICON DARLINGTON TRANSISTOR

TIP142/TIP147

Features:

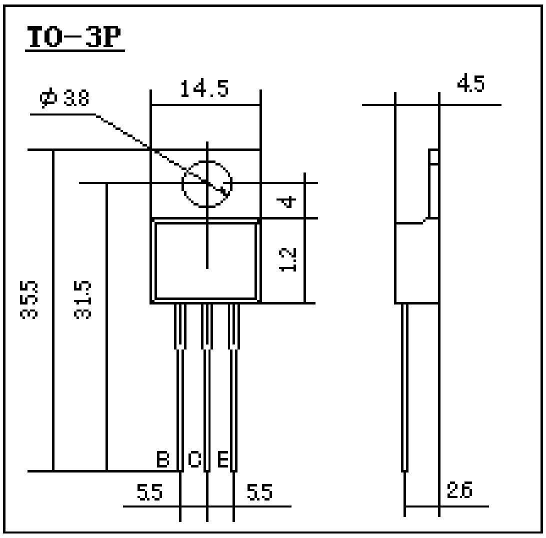
High DC current gain

Min h_{FE}=1000@V_{CE}=4V,I_C=5A

Monolithic construction with built in base-emitter shunt resistors industrial use

ABSOLUTE MAXIMUM RATINGS (Ta=25 ℃)

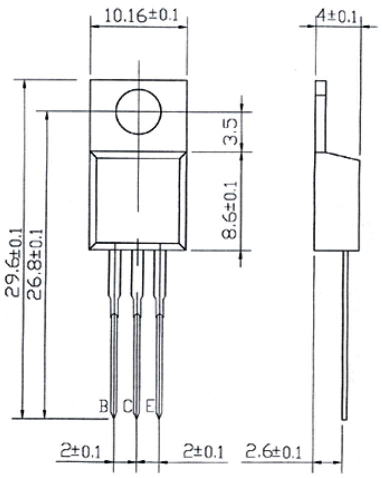
Symbol	Ratings	Units
V_{CBO}	100	V
V_{CEO}	100	V
V_{EBO}	5	V
Ic	10	A
Ic	15	A
I_B	0.5	A
Pc(TO-3P)	125	W
Pc(TO-220)	80	W
Tj	150	℃
Tstg	-65 ～ 150	℃



ELECTRICAL CHARACTERISTICS (Ta=25 ℃)

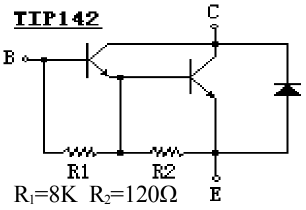
Symbol	Test conditions	Min	Typ	Max	Units
V_{CEO} (sus)	Ic=30mA,I_B=0	100			V
I_{CEO}	V_{CE}=50V, I_B=0			2	mA
I_{CBO}	V_{CB}=100V，I_E=0			1	mA
I_{EBO}	V_{BE}=5V，Ic=0			2	mA
h_{FE}	VCE=4V, Ic=5A VCE=4V, Ic=10A	1000 500			
V_{CE}(sat)	Ic=5A, I_B=10mA Ic=10A, I_B=40mA			2.0 3.0	V V
V_{BE}(sat)	Ic=10A,I_B=40mA			3.5	V
V_{BE}(on)	V_{CE}=4V, Ic=10A			3.0	V
t_d	Vcc=30V,Ic=5A		0.15		μS
t_r	I_B=20mA,I_B1=I_B2		0.55		μS
t_s			2.5		μS
t_f			2.5		μS

TO-220



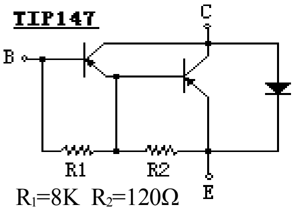
等效电路

TIP142



R_1=8K R_2=120Ω

TIP147



R_1=8K R_2=120Ω