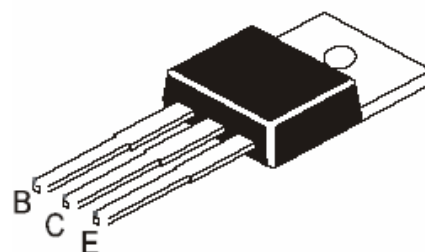


Darlington Power Transistors (PNP)

Features

- Designed for general-purpose amplifier and low speed switching applications
- RoHS Compliant



TO-220



Mechanical Data

Case:	TO-220, Plastic Package
Terminals:	Solderable per MIL-STD-202, Method 208
Weight:	0.08 ounces, 2.24 grams

Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	TIP105	TIP106	TIP107	Unit
V_{CB0}	Collector-Base Voltage	60	80	100	V
V_{CEO}	Collector-Emitter Voltage	60	80	100	V
V_{EB0}	Emitter-Base Voltage	5.0			V
I_C	Collector Current Continuous	8.0			A
I_{CM}	Collector Current Peak	15			A
I_B	Base Current	1.0			A
P_D	Power Dissipation upto $T_C=25^{\circ}C$	80			W
	Power Dissipation upto $T_A=25^{\circ}C$	2.0			W
	Power Dissipation Derate above $T_A=25^{\circ}C$	16			mW/ $^{\circ}C$
R_{θJA}	Thermal Resistance from Junction to Ambient in Free Air	62.5			$^{\circ}C/W$
R_{θJC}	Thermal Resistance from Junction to Case	1.56			$^{\circ}C/W$
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-65 to +150			$^{\circ}C$

Darlington Power Transistors (PNP)

TIP105/106/107

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description		Min.	Max.	Unit	Conditions
*h_{FE}	D.C. Current Gain		1000	20000		V _{CE} =4V, I _C =3A
			200	-		V _{CE} =4V, I _C =8A
*V_{CEO(sus)}	Collector-Emitter Sustaining Voltage	TIP105	60	-	V	I _C =30mA, I _B =0
		TIP106	80	-	V	
		TIP107	100	-	V	
*V_{CE(sat)}	Collector-Emitter Saturation Voltage		-	2.0	V	I _C =3A, I _B =6mA
			-	2.5	V	I _C =8A, I _B =80mA
*V_{BE(on)}	Base-Emitter On Voltage		-	2.8	V	I _C =8A, V _{CE} =4V
I_{CEO}	Collector-Emitter Cut-off Current	TIP105	-	50	μA	V _{CE} =30V, I _B =0
		TIP106	-	50		V _{CE} =40V, I _B =0
		TIP107	-	50		V _{CE} =50V, I _B =0
I_{CBO}	Collector-Base Cut-off Current	TIP105	-	50	μA	V _{CB} =60V, I _E =0
		TIP106	-	50		V _{CB} =80V, I _E =0
		TIP107	-	50		V _{CB} =100V, I _E =0
I_{EBO}	Emitter-Base Cut-off Current		-	8.0	mA	V _{EB} =5V, I _C =0
*V_F	Forward Voltage of Commutation Diode		-	6.0	V	I _F =I _C =10A, I _B =0

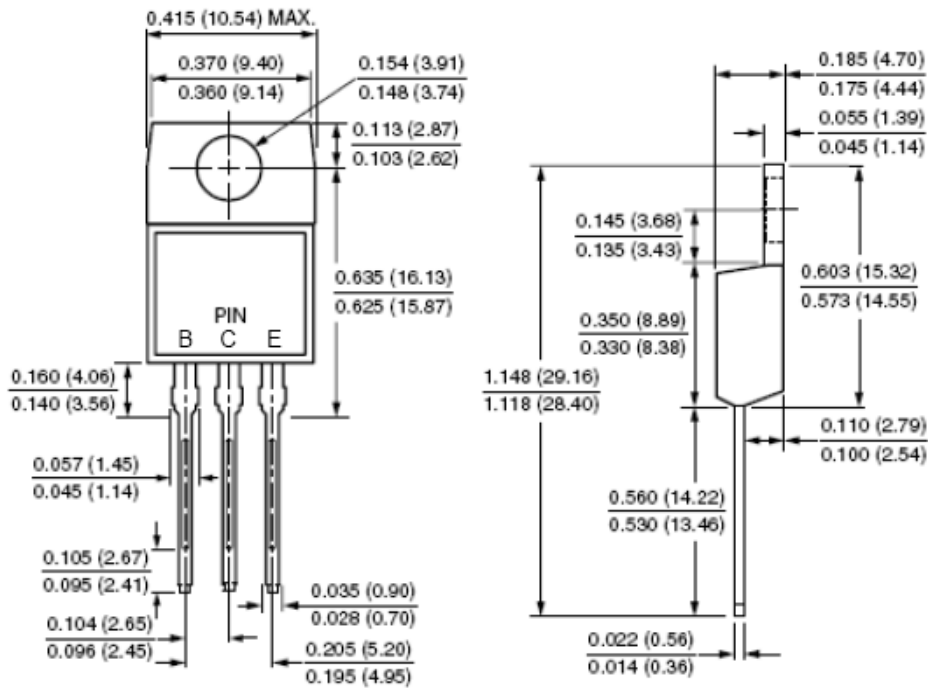
***Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%**

Darlington Power Transistors (PNP)

TIP105/106/107

Dimensions in inch (mm)

TO-220



Pin Configuration

- B. Base
- C. Collector
- E. Emitter

Darlington Power Transistors (PNP)

TIP105/106/107

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