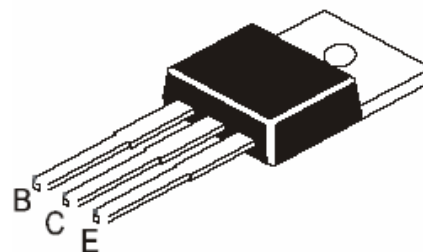


Darlington Power Transistors (NPN)

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°C unless noted otherwise)*

Symbol	Description	TIP110	TIP111	TIP112	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	2.0			A
I_{CM}	Collector Current Peak	4.0			A
I_B	Base Current	50			mA
P_D	Power Dissipation upto T _C =25°C	50			W
	Power Dissipation upto T _A =25°C	2.0			W
	Power Dissipation Derate above T _A =25°C	16			mW/° C
R_{θJA}	Thermal Resistance from Junction to Ambient in Free Air	62.5			° C /W
R_{θJC}	Thermal Resistance from Junction to Case	2.5			° C /W
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-65 to +150			° C

Darlington Power Transistors (NPN)

TIP110/111/112

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

Symbol	Description	Min.	Max.	Unit	Conditions	
*hFE	D.C. Current Gain	1000	-		$V_{CE}=4V, I_C=1A$	
		500	-		$V_{CE}=4V, I_C=2A$	
*V_{CEO(sus)}	Collector-Emitter Sustaining Voltage	TIP110	60	-	V	$I_C=30mA, I_B=0$
		TIP111	80	-	V	
		TIP112	100	-	V	
*V_{CE(sat)}	Collector-Emitter Saturation Voltage	-	2.5	V	$I_C=2A, I_B=8mA$	
*V_{BE(on)}	Base-Emitter On Voltage	-	2.8	V	$I_C=2A, V_{CE}=4V$	
I_{CEO}	Collector-Emitter Cut-off Current	-	2.0	mA	$V_{CE}=\text{Half Rated } V_{CEO}$	
I_{CBO}	Collector-Base Cut-off Current	-	1.0	mA	$V_{CB}=\text{Half Rated } V_{CBO}$	
I_{EBO}	Emitter-Base Cut-off Current	-	2.0	mA	$V_{EB}=5V, I_C=0$	

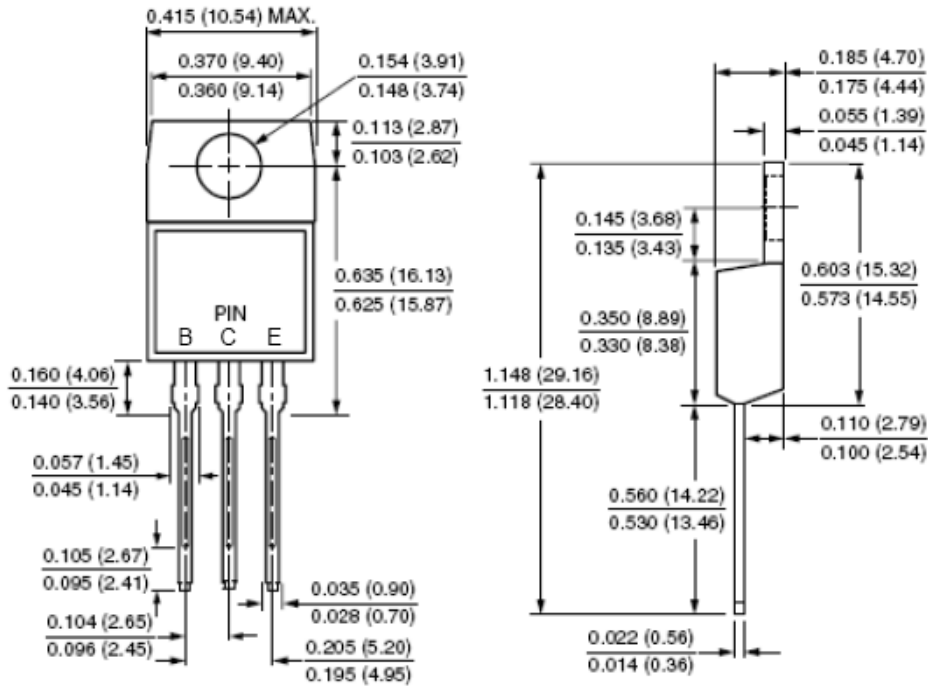
***Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$**

Darlington Power Transistors (NPN)

TIP110/111/112

Dimensions in inch (mm)

TO-220



Pin Configuration

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

Darlington Power Transistors (NPN)

TIP110/111/112

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