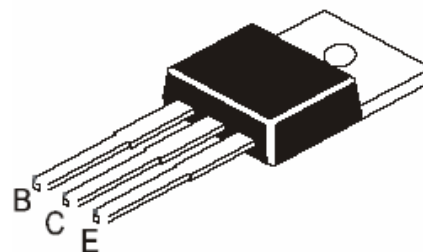


Darlington Power Transistors (NPN)

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	TIP120	TIP121	TIP122	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	5.0			A
I_{CM}	Collector Current Peak	8.0			A
I_B	Base Current	120			mA
P_D	Power Dissipation upto T _C =25°C	65			W
	Power Dissipation Derate above T _C =25°C	0.52			W/° C
	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	1.92			° C /W
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-65 to +150			° C

Darlington Power Transistors (NPN)

TIP120/121/122

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

Symbol	Description	Min.	Max.	Unit	Conditions	
*hFE	D.C. Current Gain	1000	-		$V_{CE}=3V, I_C=0.5A$	
		1000	-		$V_{CE}=3V, I_C=3A$	
*V_{CEO(sus)}	Collector-Emitter Sustaining Voltage	TIP120	60	-	V	$I_C=100mA, I_B=0$
		TIP121	80	-	V	
		TIP122	100	-	V	
*V_{CE(sat)}	Collector-Emitter Saturation Voltage	-	2.0	V	$I_C=3A, I_B=12mA$	
		-	4.0	V	$I_C=5A, I_B=20mA$	
*V_{BE(on)}	Base-Emitter On Voltage	-	2.5	V	$I_C=3A, V_{CE}=3V$	
I_{CEO}	Collector-Emitter Cut-off Current	TIP120	-	0.5	mA	$V_{CE}=30V, I_B=0$
		TIP121	-	0.5		$V_{CE}=40V, I_B=0$
		TIP122	-	0.5		$V_{CE}=50V, I_B=0$
I_{CBO}	Collector-Base Cut-off Current	TIP120	-	0.2	mA	$V_{CB}=60V, I_E=0$
		TIP121	-	0.2		$V_{CB}=80V, I_E=0$
		TIP122	-	0.2		$V_{CB}=100V, I_E=0$
I_{EBO}	Emitter-Base Cut-off Current	-	2	mA	$V_{EB}=5V, I_C=0$	
h_{fe}	Small Signal Current Gain	4.0	-		$I_C=3A, V_{CE}=4V, f=1.0MHz,$	
C_{ob}	Output Capacitance	-	200	pF	$V_{CB}=10V, I_E=0, f=0.1MHz,$	
t_{on}	Turn on time	Typ. 0.4		μS	$I_C=3A, R_L=10\Omega, I_{B1}=I_{B2}=12mA, V_{EB(off)}=5V$	
t_{off}	Turn off time	Typ. 1.2				

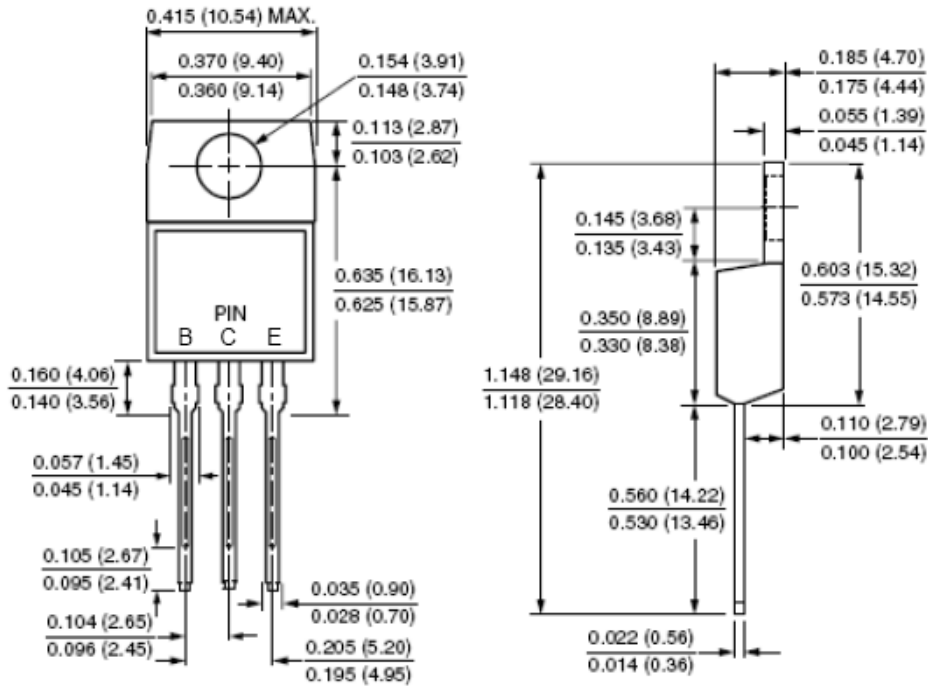
*Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

Darlington Power Transistors (NPN)

TIP120/121/122

Dimensions in inch (mm)

TO-220



Pin Configuration

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

Darlington Power Transistors (NPN)

TIP120/121/122

How to contact us:

US HEADQUARTERS

28040 WEST HARRISON PARKWAY, VALENCIA, CA 91355-4162

Tel: (800) TAITRON (800) 824-8766 (661) 257-6060

Fax: (800) TAITFAX (800) 824-8329 (661) 257-6415

Email: taitron@taitroncomponents.com

Http://www.taitroncomponents.com

TAITRON COMPONENTS MEXICO, S.A .DE C.V.

BOULEVARD CENTRAL 5000 INTERIOR 5 PARQUE INDUSTRIAL ATITALAQUIA, HIDALGO C.P.
42970 MEXICO

Tel: +52-55-5560-1519

Fax: +52-55-5560-2190

TAITRON COMPONENTS INCORPORATED REPRESENTAÇÕES DO BRASIL LTDA

RUA DOMINGOS DE MORAIS, 2777, 2.ANDAR, SALA 24 SAÚDE - SÃO PAULO-SP 04035-001 BRAZIL

Tel: +55-11-5574-7949

Fax: +55-11-5572-0052

TAITRON COMPONENTS INCORPORATED, SHANGHAI REPRESENTATIVE OFFICE

METROBANK PLAZA, 1160 WEST YAN' AN ROAD, SUITE 1503, SHANGHAI, 200052, CHINA

Tel: +86-21-5424-9942

Fax: +86-21-5424-9931