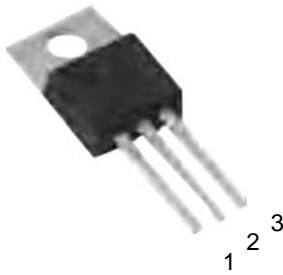


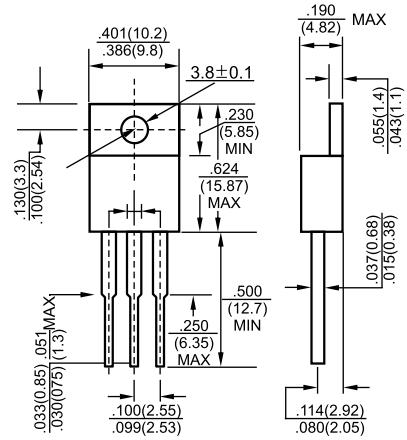
TIP110

TO-220 Darlingon Transistor (NPN)



1. BASE
2. COLLECTOR
3. EMITTER

TO-220



Dimensions in inches and (millimeters)

Features

- ✧ High DC Current Gain : $h_{FE}=1000$ @ $V_{CE}=4V, I_C=1A(\text{Min.})$
- ✧ Low Collector-Emitter Saturation Voltage
- ✧ Industrial Use

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	2	A
P_C	Collector Power Dissipation	2	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\text{mA}, I_E=0$	60			V
Collector-emitter sustaining voltage	$V_{CEO}^{(sus)}$	$I_C=30\text{mA}, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\text{mA}, I_C=0$	5			V
Collector cut-off current	I_{CEO}	$V_{CE}=30V, I_B=0$			2	mA
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			1	mA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			2	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=4V, I_C=1A$	1000			
	$h_{FE(2)}$	$V_{CE}=4V, I_C=2A$	500			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=8\text{mA}$			2.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=4V, I_C=2A$			2.8	V
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=0.1\text{MHz}$			100	pF

TIP110

TO-220 Darlington Transistor (NPN)

Typical Characteristics

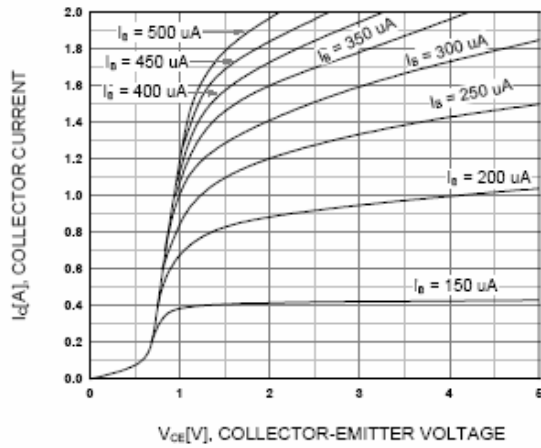


Figure 1. Static Characteristic

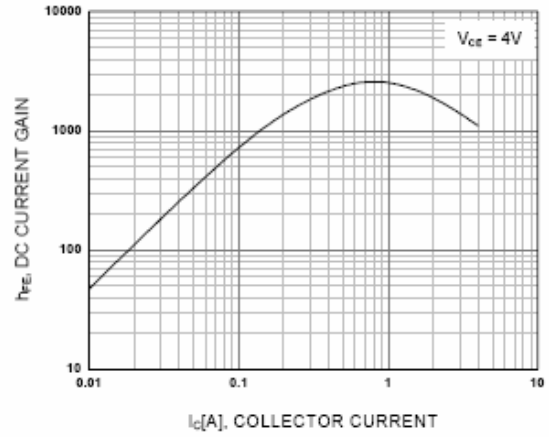


Figure 2. DC current Gain

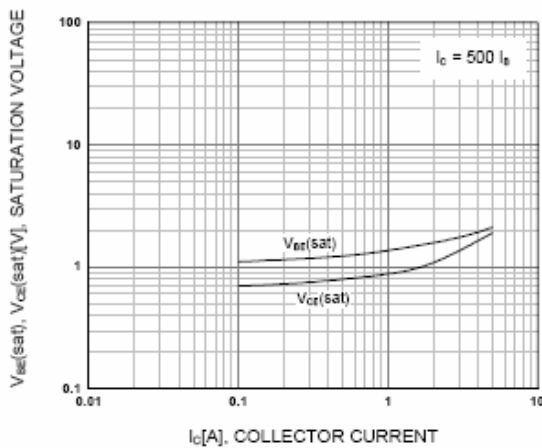


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

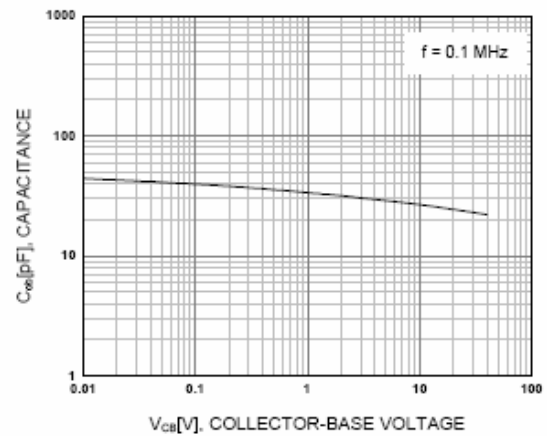


Figure 4. Collector Output Capacitance

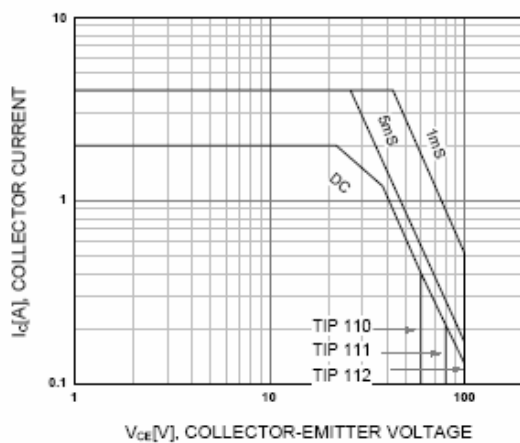


Figure 5. Safe Operating Area

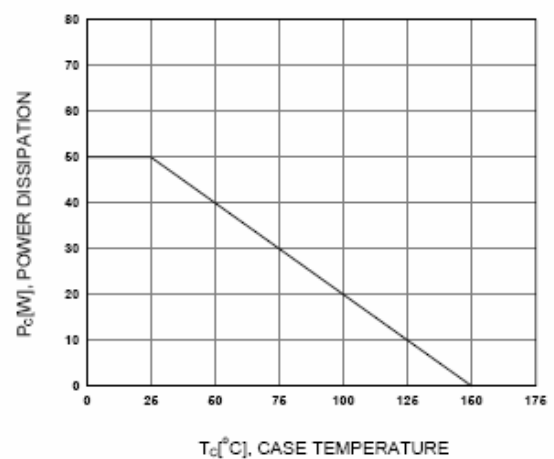


Figure 6. Power Derating

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Luguang manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NTE158](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE63](#) [C4460](#)
[2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SC5488A-TL-H](#) [2SD2150T100R](#) [SP000011176](#) [2N2369ADCSM](#)
[2N5769](#) [2SC2412KT146S](#) [2SC5490A-TL-H](#) [2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#)
[US6T6TR](#) [NJL0281DG](#) [732314D](#) [CMXT3906 TR](#) [CPH3121-TL-E](#) [CPH6021-TL-H](#) [873787E](#) [IMZ2AT108](#) [UMX21NTR](#) [MCH6102-TL-E](#)
[NJL0302DG](#) [TTA1452B,S4X\(S](#) [2N3583](#) [NTE103](#) [30A02MH-TL-E](#) [NSV40301MZ4T1G](#) [NTE101](#) [NTE13](#) [NTE15](#) [NTE16001](#) [NTE16006](#)
[NTE26](#)