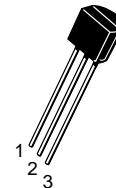


High Voltage Darlington Transistors

NPN Silicon

BC372
BC373



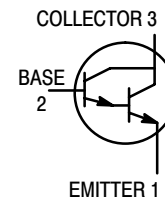
CASE 29-11, STYLE 1
TO-92 (TO-226AA)

MAXIMUM RATINGS

Rating	Symbol	BC372	BC373	Unit
Collector–Emitter Voltage	V_{CES}	100	80	Vdc
Collector–Base Voltage	V_{CBO}	100	80	Vdc
Emitter–Base Voltage	V_{EBO}	12		Vdc
Collector Current — Continuous	I_C	1.0		Adc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625	5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.5	12	Watt mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150		$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C}/\text{W}$



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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage ⁽¹⁾ ($I_C = 100 \mu\text{Adc}, I_B = 0$)	BC372 BC373	$V_{(BR)CES}$	100 80	— —	— —	Vdc
Collector–Base Breakdown Voltage ($I_C = 100 \mu\text{Adc}, I_E = 0$)	BC372 BC373	$V_{(BR)CBO}$	100 80	— —	— —	Vdc
Emitter–Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}, I_C = 0$)		$V_{(BR)EBO}$	12	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 80 \text{Vdc}, I_E = 0$) ($V_{CB} = 60 \text{Vdc}, I_E = 0$)	BC372 BC373	I_{CBO}	— —	— —	100 100	nAdc
Emitter Cutoff Current ($V_{EB} = 10 \text{V}, I_C = 0$)		I_{EBO}	—	—	100	nAdc

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle 2.0%.

BC372 BC373

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (Continued)

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS(1)					
DC Current Gain (I _C = 250 mA, V _{CE} = 5.0 Vdc) (I _C = 100 mA, V _{CE} = 5.0 Vdc)	h _{FE}	8.0 10	— —	— 160	K
Collector–Emitter Saturation Voltage (I _C = 250 mA, I _B = 0.25 mA)	V _{CE(sat)}	—	1.0	1.1	Vdc
Base–Emitter Saturation Voltage (I _C = 250 mA, I _B = 0.25 mA)	V _{BE(sat)}	—	1.4	2.0	Vdc

DYNAMIC CHARACTERISTICS

Current–Gain Bandwidth Product (I _C = 100 mA, V _{CE} = 5.0 Vdc, f = 100 MHz)	f _T	100	200	—	MHz
Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz)	C _{ob}	—	10	25	pF
Noise Figure (I _C = 1.0 mA, V _{CE} = 5.0 Vdc, R _g = 100 k ohm, f = 1.0 kHz)	NF	—	2.0	—	dB

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle 2.0%.

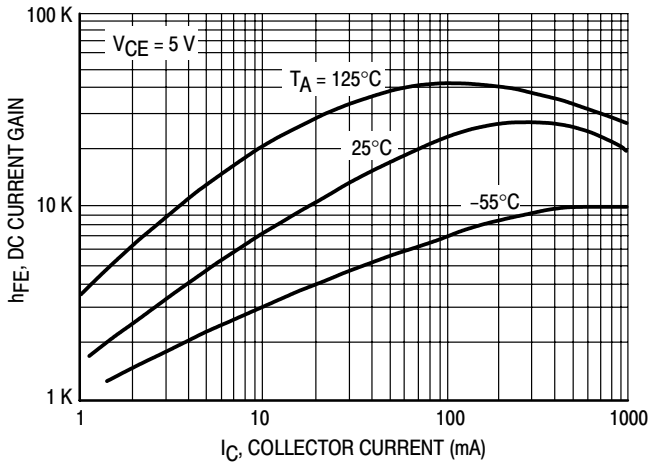


Figure 1. DC Current Gain

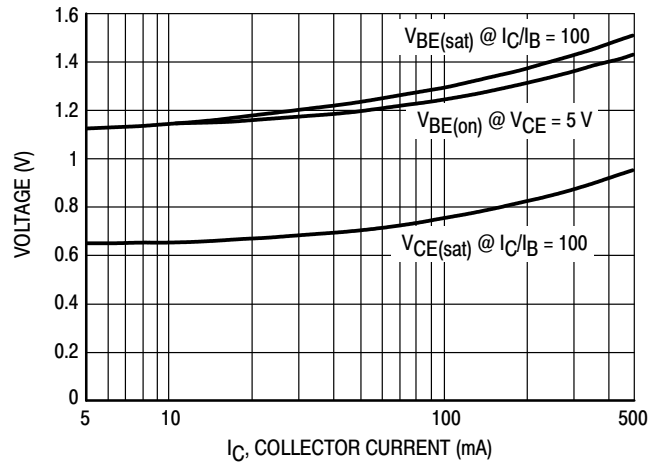


Figure 2. “Saturation” and “On” Voltages

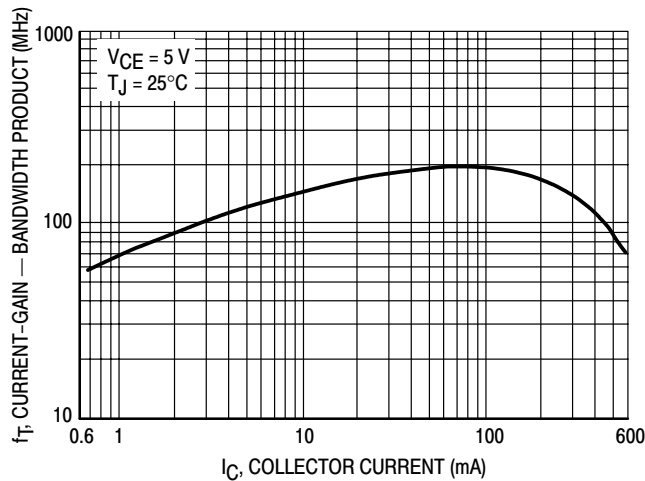


Figure 3. Current–Gain — Bandwidth Product

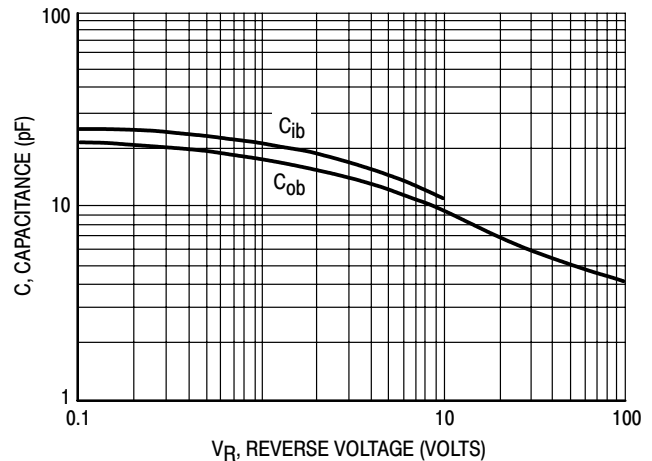
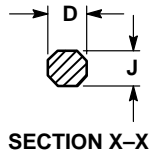
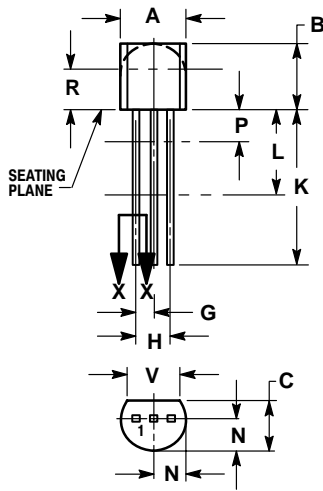


Figure 4. Capacitances

BC372 BC373

PACKAGE DIMENSIONS

TO-92 (TO-226) CASE 29-11 ISSUE AL




STYLE 1:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---

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