



SMALL-SIGNAL DARLINGTON TRANSISTORS

PNP epitaxial small-signal Darlington transistors, each in a plastic TO-92 envelope with an integrated diode and resistor.

They can be used for general purpose low frequency applications and as relay drivers etc.

NPN complementary types are the BC875, BC877, and BC879.

QUICK REFERENCE DATA

			BC876	878	880
Collector-base voltage	$-V_{CBO}$	max.	60	80	100 V
Collector-emitter voltage	$-V_{CEO}$	max.	45	60	80 V
DC collector current	$-I_C$	max.		1	A
Total power dissipation up to $T_{amb} = 25\text{ }^\circ\text{C}$	P_{tot}	max.		0.8	W
DC current gain $-I_C = 150\text{ mA}; -V_{CE} = 10\text{ V}$	h_{FE}	min.		1000	

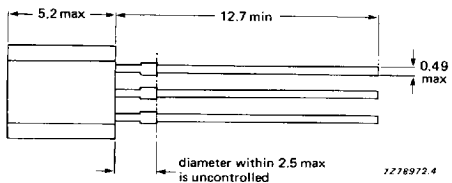
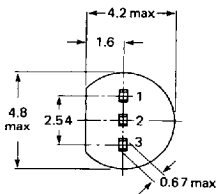
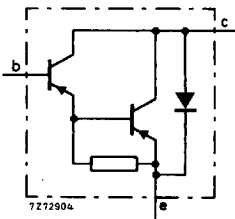
MECHANICAL DATA

Dimensions in mm

Fig.1 TO-92.

Pinning

- 1 = base
- 2 = collector
- 3 = emitter



Capability approved to CECC NECC-C-002

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

			BC876	878	880
Collector-base voltage	$-V_{CB0}$	max.	60	80	100 V
Collector-emitter voltage	$-V_{CEO}$	max.	45	60	80 V
Emitter-base voltage	$-V_{EBO}$	max.		5	V
DC collector current	$-I_C$	max.		1	A
Total power dissipation up to T _{amb} = 25 °C	P _{tot}	max.		0.8	W
T _{amb} = 25 °C (note 1)	P _{tot}	max.		1	W
Storage temperature range	T _{stg}			-65 to + 150	°C
Junction temperature	T _j	max.		150	°C

THERMAL RESISTANCE

From junction to ambient in free air	R _{th j-a}	=		156	K/W
From junction to ambient (note 1)	R _{th j-a}	=		125	K/W

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

			BC876	878	880
Collector-emitter breakdown voltage $-I_C = 50 \text{ mA}; -I_B = 0$	$-V_{(BR)CEO}$	min.	45	60	80 V
Collector-base breakdown voltage $-I_C = 100 \mu\text{A}; -I_B = 0$	$-V_{(BR)CBO}$	min.	60	80	100 V
Emitter-base breakdown voltage $-I_E = 100 \mu\text{A}; -I_C = 0$	$-V_{(BR)EBO}$	min.	5	5	5 V
Collector cut-off current $-V_{CB} = 60 \text{ V}; -I_E = 0$	$-I_{CBO}$	max.	100	—	— nA
$-V_{CB} = 80 \text{ V}; -I_E = 0$	$-I_{CBO}$	max.	—	100	— nA
$-V_{CB} = 100 \text{ V}; -I_E = 0$	$-I_{CBO}$	max.	—	—	100 nA
$-V_{CE} = 22.2 \text{ V}; -I_B = 0$	$-I_{CEO}$	max.	500	—	— nA
$-V_{CE} = 30 \text{ V}; -I_B = 0$	$-I_{CEO}$	max.	—	500	— nA
$-V_{CE} = 40 \text{ V}; -I_B = 0$	$-I_{CEO}$	max.	—	—	500 nA
Emitter cut-off current $-V_{EB} = 4 \text{ V}; -I_C = 0$	$-I_{EBO}$	max.		100	nA
DC current gain $-I_C = 150 \text{ mA}; -V_{CE} = 10 \text{ V}$	hFE	min.		1000	
$-I_C = 0.5 \text{ A}; -V_{CE} = 10 \text{ V}$	hFE	min.		2000	

Note

1. Mounted on a printed circuit board, max. lead length 4 mm, mounting pad for collector lead min. 10 mm x 10 mm.

Small-signal Darlington transistors

BC876
BC878
BC880

			BC876	878	880
Collector-emitter saturation voltage					
-I _C = 0.5 A; -I _B = 0.5 mA	-V _{CEsat}	max.		1.3	V
-I _C = 1.0 A; -I _B = 1.0 mA	-V _{CEsat}	max.		1.8	V
Base-emitter saturation voltage					
-I _C = 1.0 A; -I _B = 1.0 mA	-V _{BEsat}	max.		2.2	V
Transition frequency at T _{amb} = 25 °C					
-I _C = 0.5 A; -V _{CE} = 5 V; f = 35 MHz	f _T	typ.		200	MHz