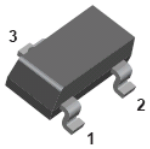
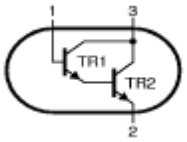
BCV27/BCV47

Darlington Amplifier Transistor(NPN)

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR



FEATURES

- Complementary to BCV26, BCV46.
- High collector current.
- High current gain.
- For general AF applications.
- Complementary types:BCV26,BCV46

APPLICATIONS

- NPN silicon darlington transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
BCV27	FF	SOT-23
BCV47	FG	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	BCV27	BCV47	Units
V_{CBO}	Collector-Base Voltage	40	80	V
V_{CEO}	Collector-Emitter Voltage	30	60	V
V_{EBO}	Emitter-Base Voltage	10	10	V
I_C	Collector Current -DC	500		mA
I_{CM}	Collector Current –Peak	800		mA
I_B	Base Current -DC	100		mA
I_{BM}	Base Current –Peak	200		mA
P_C	Collector Dissipation	350		mW
T_j,T_{stg}	Junction and Storage Temperature	-65 to +150		℃

BCV27/BCV47

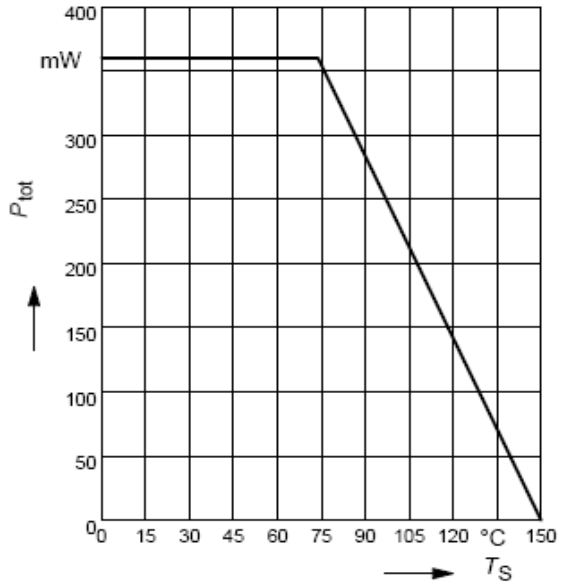
Darlington Amplifier Transistor(NPN)

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

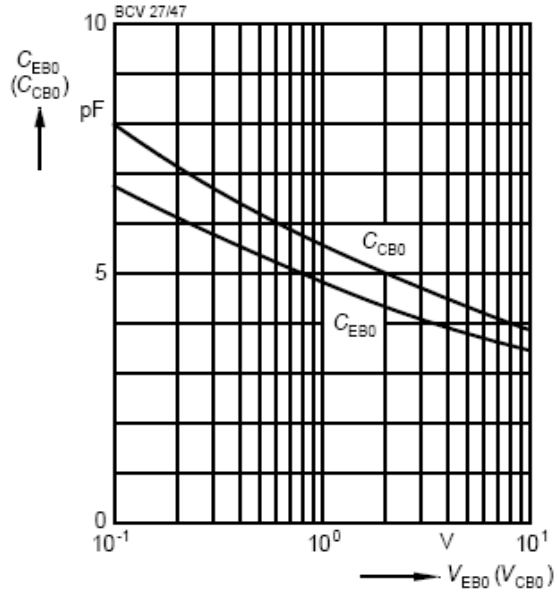
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0 BCV27 BCV47	40 80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA,I_B=0 BCV27 BCV47	30 60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	10			V
Collector cutoff current	I_{CBO}	V_{CB}=30V,I_E=0 BCV27 V_{CB}=60V,I_E=0 BCV47			0.1 0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=1V,I_C=100uA BCV27 BCV47	 4000 2000			
DC current gain	h_{FE}	V_{CE}=5V,I_C=10mA BCV27 BCV47	 10k 4000			
DC current gain	h_{FE}	V_{CE}=5V,I_C=0.1A BCV27 BCV47	 20k 10k			
DC current gain	h_{FE}	V_{CE}=5V,I_C=0.5A BCV27 BCV47	 4000 2000			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B= 0.1mA			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B= 0.1mA			1.5	V
Transition frequency	f_T	V_{CE}=5V, I_C= 50mA f=100MHz		170		MHz
Collector-base capacitance	C_{cb}	V_{CB}=10V,f=1MHz		3.5		pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

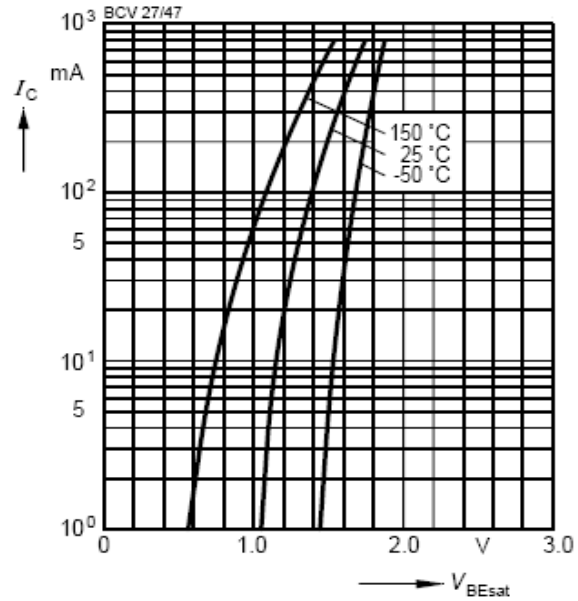
Total power dissipation $P_{tot} = f(T_S)$



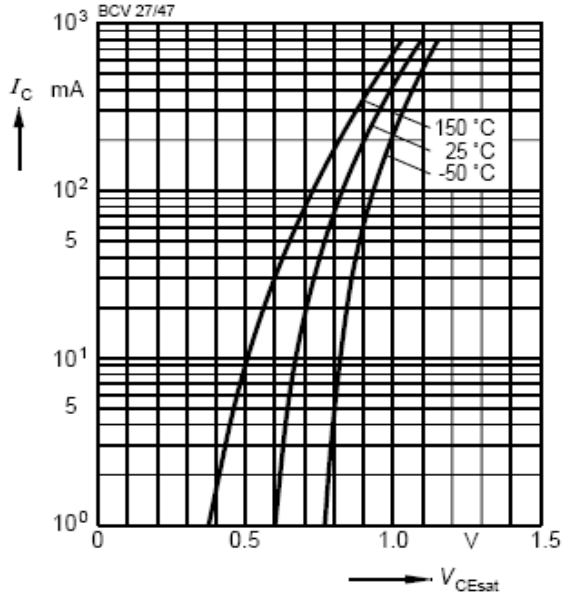
Collector-base capacitance $C_{CB} = f(V_{CBO})$
Emitter-base capacitance $C_{EB} = f(V_{EBO})$



Base-emitter saturation voltage
$I_C = f(V_{BEsat})$, $h_{FE} = 1000$



Collector-emitter saturation voltage
$I_C = f(V_{CEsat})$, $h_{FE} = 1000$

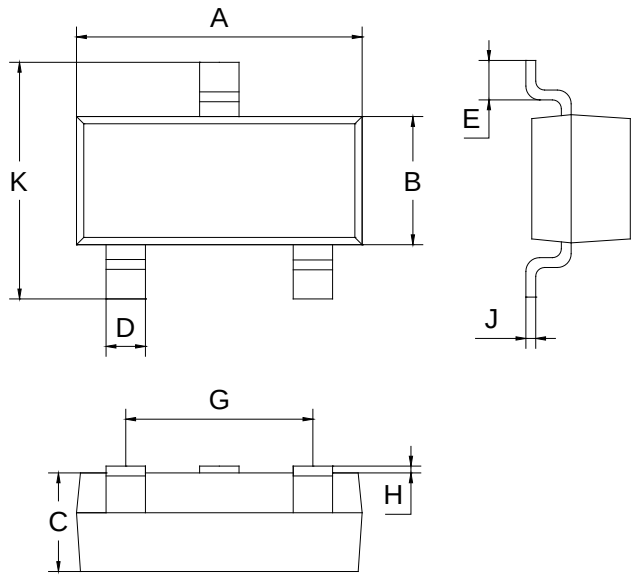


BCV27/BCV47

Darlington Amplifier Transistor(NPN)

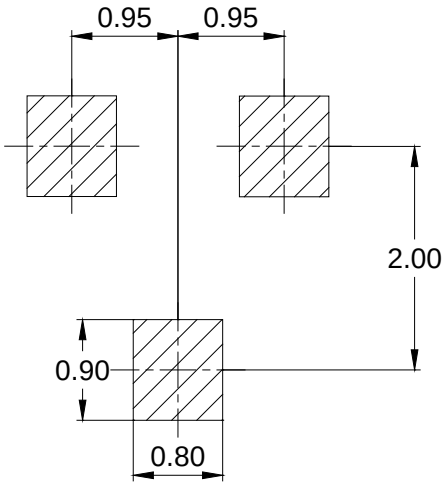
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
BCV27/BCV47	SOT-23	3000 pcs / Tape & Reel