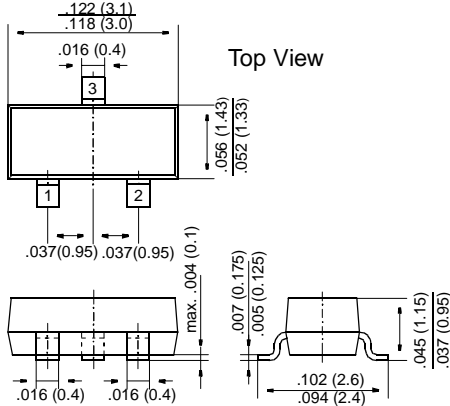


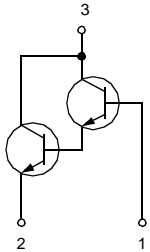
# BCV27

## Darlington Transistor

### SOT-23



Dimensions in inches and (millimeters)



Pin configuration  
 1 = Base  
 2 = Emitter  
 3 = Collector

### FEATURES

- ◆ High collector current
- ◆ High current gain
- ◆ NPN Silicon Planar Darlington Transistor for general NF applications
- ◆ As complementary type, the PNP transistor BCV26 is recommended.



### MECHANICAL DATA

**Case:** SOT-23 Plastic Package

**Weight:** approx. 0.008 g

**Marking**

FF

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	30	V
Collector-Base Voltage	$V_{CBO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Collector Current	$I_C$	300	mA
Peak Collector Current	$I_{CM}$	800	mA
Base Current	$I_B$	100	mA
Power Dissipation at $T_{SB} = 50\text{ °C}$	$P_{tot}$	300 <sup>1)</sup>	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_S$	-65 to +150	°C

<sup>1)</sup> Device on fiberglass substrate, see layout

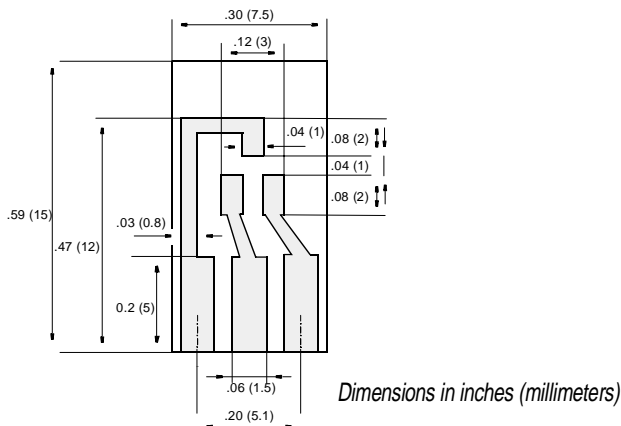
# BCV27

## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Collector-Base Cutoff Current at $V_{CBO} = 30$ V	$I_{CBO}$	–	–	0.1	$\mu$ A
Emitter-Base Cutoff Current at $V_{EB} = 10$ V	$I_{EBO}$	–	–	0.1	$\mu$ A
Collector-Emitter Breakdown Voltage at $I_C = 10$ mA	$V_{(BR)CEO}$	30	–	–	V
Collector-Base Breakdown Voltage at $I_C = 10$ $\mu$ A	$V_{(BR)CBO}$	40	–	–	V
Emitter-Base Breakdown Voltage at $I_E = 100$ nA	$V_{(BR)EBO}$	10	–	–	V
DC Current Gain at $V_{CE} = 5$ V, $I_C = 1$ mA at $V_{CE} = 5$ V, $I_C = 10$ mA at $V_{CE} = 5$ V, $I_C = 100$ mA	$h_{FE}$ $h_{FE}$ $h_{FE}$	4000 10000 20000	– – –	– – –	– – –
Collector-Emitter Saturation Voltage at $I_C = 100$ mA, $I_B = 0.1$ mA	$V_{CEsat}$	–	–	1.0	V
Base-Emitter Saturation Voltage at $I_C = 100$ mA, $I_B = 0.1$ mA	$V_{BEsat}$	–	–	1.5	V
Gain-Bandwidth Product at $V_{CE} = 5$ V, $I_C = 30$ mA, $f = 100$ MHz	$f_T$	–	220	–	MHz
Collector-Base Capacitance at $V_{CB} = 30$ V, $I_E = 0$ , $f = 1$ MHz	$C_{CBO}$	–	3.5	–	pF
Thermal Resistance Junction to Ambient Air	$R_{thJA}$	–	–	430 <sup>1)</sup>	K/W

1) Device on fiberglass substrate, see layout below



### Layout for $R_{thJA}$ test

Thickness: Fiberglass 0.059 in (1.5 mm)

Copper leads 0.012 in (0.3 mm)