

## SILICON PLANAR DARLINGTON TRANSISTOR

P-N-P silicon planar darlington transistor in a plastic SOT23 envelope.  
 N-P-N complement is BCV27/47.

### QUICK REFERENCE DATA

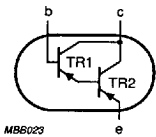
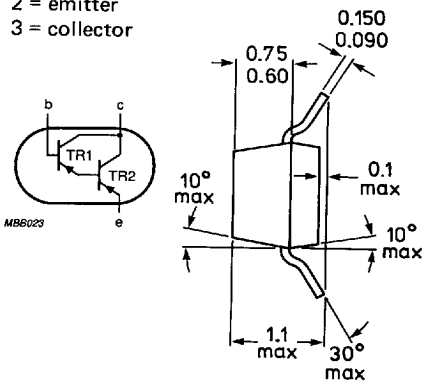
		BCV26	BCV46
Collector-emitter voltage (open base)	$-V_{CEO}$ max.	30	60 V
Collector-base voltage (open emitter)	$-V_{CBO}$ max.	40	80 V
Collector current	$-I_C$ max.	300	500 mA
DC current gain	$-I_C = 1$ mA; $-V_{CE} = 5$ V	$h_{FE} >$	4 000
	$-I_C = 10$ mA; $-V_{CE} = 5$ V	$h_{FE} >$	10 000
	$-I_C = 100$ mA; $-V_{CE} = 5$ V	$h_{FE} >$	20 000
Junction temperature	$T_j$ max.	150	$^{\circ}\text{C}$
Total power dissipation up to $T_{amb} = 25^{\circ}\text{C}$	$P_{tot}$ max.	250	mW
Collector-emitter saturation voltage	$-I_C = 100$ mA; $-I_B = 0.1$ mA	$-V_{CEsat}$ max.	1.0
			V
Transition frequency at $f = 100$ MHz	$-I_C = 30$ mA; $-V_{CE} = 5$ V	$f_T$ typ.	220
			MHz

### MECHANICAL DATA

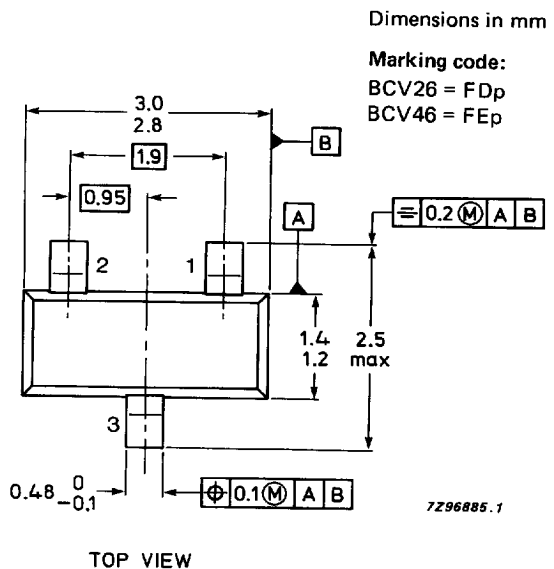
Fig. 1 SOT23

#### Pinning:

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



MB6023



Dimensions in mm

#### Marking code:

BCV26 = FDp  
 BCV46 = FEp

7296885.1

TOP VIEW

**RATINGS**

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

		BCV26	BCV46
Collector-emitter voltage (open base)	$-V_{CEO}$ max.	30	60 V
Collector-base voltage (open emitter)	$-V_{CBO}$ max.	40	80 V
Emitter-base voltage (open collector)	$-V_{EBO}$ max.	10	10 V
Collector current	$-I_C$ max.	300	500 mA
Collector current (peak value)	$-I_{CM}$ max.	800	mA
Base current	$-I_B$ max.	100	mA
Total power dissipation up to $T_{amb} = 25^\circ C^*$	$P_{tot}$ max.	250	mW
Storage temperature	$T_s$	-65 to +150	$^\circ C$
Junction temperature	$T_j$ max.	150	$^\circ C$

**THERMAL RESISTANCE**

From junction to ambient*	$R_{th\ j-a}$ max.	500	K/W
---------------------------	--------------------	-----	-----

**CHARACTERISTICS**

$T_{amb} = 25^\circ C$  unless otherwise stated

		BCV26	BCV46
Collector-base current $-V_{CBO} = 30\ V$	$-I_{CBO}$ max.	0.1	0.1 $\mu A$
Emitter-base current $-V_{EB} = 10\ V$	$-I_{EBO}$ max.	0.1	0.1 $\mu A$
Collector-emitter break-down voltage $-I_C = 10\ mA$	$-V_{(BR)CEO}$ min.	30	60 V
Collector-base breakdown voltage $I_C = 10\ \mu A$	$-V_{(BR)CBO}$ min.	40	80 V
Emitter-base breakdown voltage $-I_E = 100\ nA$	$-V_{(BR)EBO}$ min.	10	10 V
DC current gain			
$-I_C = 1\ mA; -V_{CE} = 5\ V$	$h_{FE}$ min.	4 000	2 000
$-I_C = 10\ mA; -V_{CE} = 5\ V$	$h_{FE}$ min.	10 000	4 000
$-I_C = 100\ mA; -V_{CE} = 5\ V$	$h_{FE}$ min.	20 000	10 000
Collector-emitter saturation voltage $-I_C = 100\ mA; -I_B = 0.1\ mA$	$-V_{CEsat}$ max.	1.0	V
Base-emitter saturation voltage $-I_C = 100\ mA; -I_B = 0.1\ mA$	$-V_{BEsat}$ max.	1.5	V
Transition frequency at $f = 100\ MHz$ $-I_C = 30\ mA; -V_{CE} = 5\ V$	$f_T$ typ.	220	MHz
Collector capacitance at $f = 1\ MHz$ $I_E = 0; -V_{CB} = 30\ V$	$C_C$ typ.	3.5	pF

\* Mounted on a ceramic substrate of 8 mm x 10 mm x 0.7 mm.