SILICON PLANAR EPITAXIAL TRANSISTORS

N-P-N transistors, in a microminiature plastic package, intended for low level general purpose applications in thick and thin-film circuits.

QUICK REFERENCE DATA

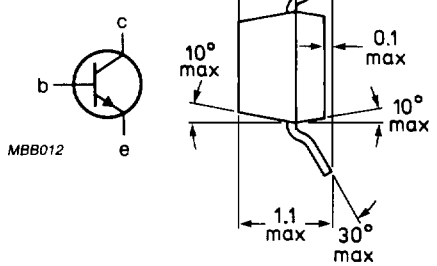
			BCV71	BCV72	
D.C. current gain at T_j = 25 °C		>	110	200	
I_C = 2 mA; V_{CE} = 5 V	h_{FE}	<	220	450	
Collector-base voltage (open emitter)	V_{CBO}	max.	80		V
Collector-emitter voltage (open base)	V_{CEO}	max.	60		V
Collector current (peak value)	I_{CM}	max.	200		mA
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	250		mW
Junction temperature	T_j	max.	150		°C
Transition frequency at f = 100 MHz					
I_C = 10 mA; V_{CE} = 5 V	f_T	>	100		MHz
Noise figure at R_S = 2 kΩ					
I_C = 200 μA; V_{CE} = 5 V;					
f = 1 kHz; B = 200 Hz	F	<	10		dB

MECHANICAL DATA

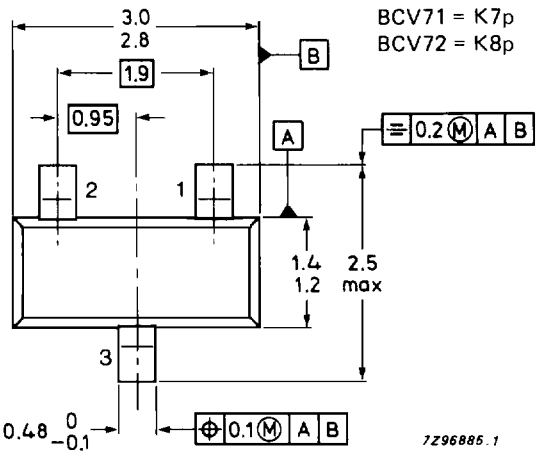
Fig. 1 SOT-23.

Pinning:

1 = base
2 = emitter
3 = collector



Dimensions in mm



TOP VIEW

Marking code

BCV71 = K7p
BCV72 = K8p

Reverse pinning types are available on request.

RATINGS

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

Collector-base voltage (open emitter)	V_{CBO}	max.	80	V
Collector-emitter voltage (open base)				
I_C = 2 mA	V_{CEO}	max.	60	V
Emitter-base voltage (open collector)	V_{EBO}	max.	5	V
Collector current (d.c.)	I_C	max.	100	mA
Collector current (peak value)	I_{CM}	max.	200	mA
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	250	mW
Storage temperature	T_{stg}		−65 to + 150	°C
Junction temperature	T_j	max.	150	°C

THERMAL RESISTANCE

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

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Collector cut-off current				
I_E = 0; V_{CB} = 20 V	I_{CBO}	<	100	nA
I_E = 0; V_{CB} = 20 V; T_j = 100 °C	I_{CBO}	<	10	μA
Base emitter voltage				
I_C = 2 mA; V_{CE} = 5 V	V_{BE}		550 to 700	mV
Saturation voltages				
I_C = 10 mA; I_B = 0,5 mA	V_{CEsat}	typ.	120	mV
		<	250	mV
	V_{BEsat}	typ.	750	mV
I_C = 50 mA; I_B = 2,5 mA	V_{CEsat}	typ.	210	mV
	V_{BEsat}	typ.	850	mV

			BCV71	BCV72	
D.C. current gain					
I_C = 10 μA; V_{CE} = 5 V	h_{FE}	typ.	90	150	
I_C = 2 mA; V_{CE} = 5 V	h_{FE}	>	110	200	
		<	220	450	
Collector capacitance at f = 1 MHz					
$I_E = I_e$ = 0; V_{CB} = 10 V	C_c	typ.	2,5		pF
Transition frequency at f = 100 MHz					
I_C = 10 mA; V_{CE} = 5 V	f_T	>	100		MHz
Noise figure at R_S = 2 kΩ					
I_C = 200 μA; V_{CE} = 5 V					
f = 1 kHz; B = 200 Hz	F	<	10		dB

* Mounted on an FR4 printed-circuit board 8 mm x 10 mm x 0.7 mm.