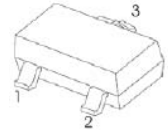


BCW65 TRANSISTOR (NPN)

FEATURE

- General Purpose Transistor

SOT - 23



1. BASE
2. EMITTER
3. COLLECTOR

MARKING:

BCW65A: EA

BCW65B: EB

BCW65C: EC

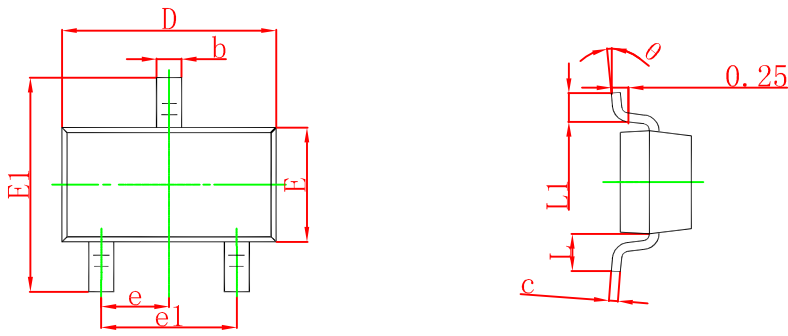
MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_{c}	Collector Current -Continuous	800	mA
P_{c}	Collector Power Dissipation	225	mW
$R_{\theta\text{JA}}$	Thermal Resistance from Junction to Ambient	556	$^{\circ}\text{C}/\text{W}$
T_{j}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

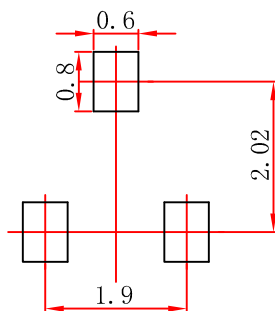
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	32			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =32V, I _E =0			0.02	μA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0			0.02	μA
DC current gain	BCW65A	h _{FE(1)} *	V _{CE} =10V, I _C =100μA	35		
	BCW65B/BCW65C			80		
	BCW65A	h _{FE(2)} *	V _{CE} =1V, I _C =10mA	75		
	BCW65B/BCW65C			180		
	BCW65A	h _{FE(3)} *	V _{CE} =1V, I _C =100mA	100		250
	BCW65B			160		400
	BCW65C			250		630
	BCW65A	h _{FE(4)} *	V _{CE} =2V, I _C =500mA	35		
BCW65B/BCW65C	100					
Collector-emitter saturation voltage	V _{CE(sat)} *	I _C =100mA, I _B =10mA			0.3	V
		I _C =500mA, I _B =50mA			0.7	V
Base-emitter saturation voltage	V _{BE(sat)} *	I _C =500mA, I _B =50mA			2	V
Transition frequency	f _T	V _{CE} =10V, I _C =20 mA, f=100MHz	100			MHz
Collector output capacitance	C _{ob}	V _{CB} =6V, I _E =0, f=1MHz			12	pF
Collector input capacitance	C _{ib}	V _{EB} =0.5V, I _C =0, f=1MHz			80	pF
Noise figure	NF	V _{CE} =5V, I _C =0.2mA, R _S = 1kΩ, f =1kHz, BW=200 Hz			10	dB

*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

SOT-23 Embossed Carrier Tape



Packaging Description:

SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter

Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	