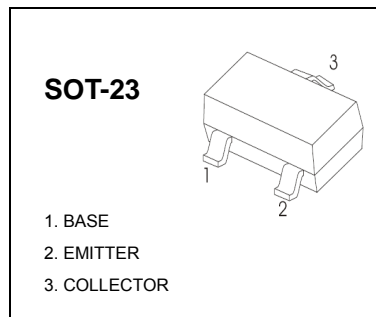


■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V).



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
collector-base voltage	VCBO	30	V
		50	V
collector-emitter voltage	VCEO	30	V
		45	V
emitter-base voltage	VEBO	5	V
collector current (DC)	IC	100	mA
peak collector current	ICM	200	mA
peak base current	IBM	200	mA
total power dissipation $T_{amb} = 25^{\circ}C$ *	Ptot	250	mW
storage temperature	Tstg	-65 to 150	°C
junction temperature	Tj	150	°C
operating ambient temperature	Tamb	-65 to 150	°C
thermal resistance from junction to ambient *	Rth(j-a)	500	K/W

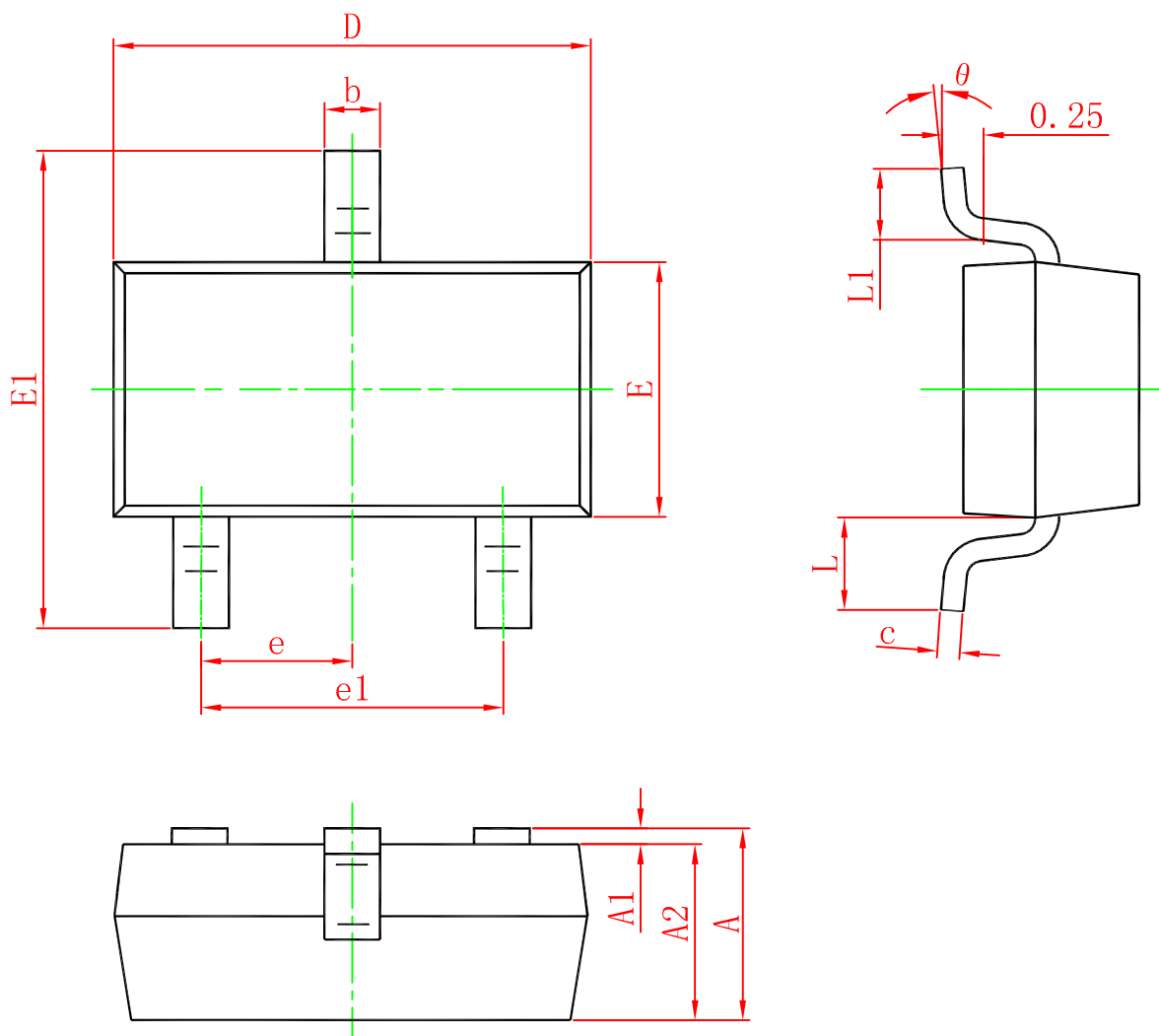
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
collector cut-off current	I _{CBO}	I _E = 0; V _{CB} = 30 V			15	nA
		I _E = 0; V _{CB} = 30 V; T _j = 150 °C			5	μA
emitter cut-off current	I _{EBO}	I _C = 0; V _{EB} = 5 V			100	nA
DC current gain	h _{FE}	I _C = 10 μA; V _{CE} = 5 V;		240		
DC current gain		I _C = 2 mA; V _{CE} = 5 V;	200	290	450	
			420	520	800	
collector-emitter saturation voltage	V _{CEsat}	I _C = 10 mA; I _B = 0.5 mA		90	250	mV
		I _C = 100 mA; I _B = 5 mA		200	600	mV
base-emitter saturation voltage	V _{BEsat}	I _C = 10 mA; I _B = 0.5 mA; *1		700		mV
		I _C = 100 mA; I _B = 5 mA; *1		900		mV
base-emitter voltage	V _{BE}	I _C = 2 mA; V _{CE} = 5 V; *2	580	660	700	mV
		I _C = 10 mA; V _{CE} = 5 V; *2			770	mV
collector capacitance	C _c	I _E = i _e = 0; V _{CB} = 10 V; f = 1 MHz		2.5		pF
emitter capacitance	C _e	I _C = i _c = 0; V _{EB} = 500 mV; f = 1 MHz		11		pF
transition frequency	f _T	I _C = 10 mA; V _{CE} = 5 V; f = 100 MHz	100			MHz
noise figure	F	I _C = 200 μA; V _{CE} = 5 V; R _S = 2 kΩ, f = 10 Hz to 15.7 kHz			4	dB
		I _C = 200 μA; V _{CE} = 5 V; R _S = 2 kΩ, f = 1 kHz; B = 200 Hz			4	dB

*1 V_{BEsat} decreases by about 1.7 mV/K with increasing temperature.

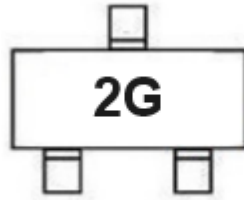
*2 V_{BE} decreases by about 2 mV/K with increasing temperature.

SOT-23 PACKAGE OUTLINE DIMENSIONS



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°

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
UMW BC850C	SOT-23	3000	Tape and reel