



**SURFACE MOUNT SMALL
SIGNAL TRANSISTORS**

ABSOLUTE MAXIMUM RATINGS at Ta=25°C

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{ceo}	45	V
Emitter-Base Voltage	V _{ebo}	5.0	V
Peak Collector Current	I _{CM}	800	mA
Peak Emitter Current	I _{EM}	800	mA
Collector Current	I _c	500	mA
Collector Dissipation Ta=25°C*	P _D	310	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-65-150	°C

Package:SOT-23



PIN:	1	2	3
STYLE			
NO.1	B	E	C

ELECTRICAL CHARACTERISTICS at Ta=25°C

Characteristic	Symbol	Min	Max	Unit	Test Conditions
DC Current Gain	Current Gain Group-16	100	250		V _{ce} =1.0V I _c =100mA
	- 2 5	160	400		
	- 4 0	250	600		
	Current Gain Group-16	60			V _{ce} =1.0V I _c =300mA
	- 2 5	100			
	- 4 0	170			
Collector-Emitter Saturation Voltage	V _{ce(sat)}		0.7	V	I _c = 500mA I _b = 50mA
Base-Emitter Voltage	V _{be}		1.2	V	V _{ce} =1.0V I _c =300mA
Collector-Emitter Cutoff	I _{ces}		100	nA	V _{ce} =45V
			5.0	uA	V _{ce} =25V, T _j =150°C
Emitter-Base Cutoff Current	I _{ebo}		100	nA	V _{eb} =4.0V
Gain Bandwidth Product	f _T	100		MHz	V _{ce} =5V I _c =10mA f=50MHz
Collector-Base Capacitance	C _{cb}		12	PF	V _{cb} =10V f=1.0MHz

* Total Device Dissipation : FR=1x0.75x0.062in Board, Derate 25°C.

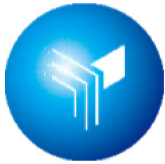
Pulse Test: Pulse Width ≤300uS, Duty cycle ≤2%

DEVICE MARKING:

BC817-16=6A

BC817-25=6B

BC817-40=6C



BC817-16/-25/-40

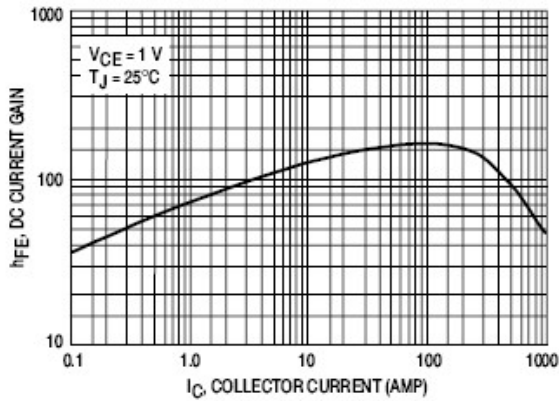


Figure 1. DC Current Gain

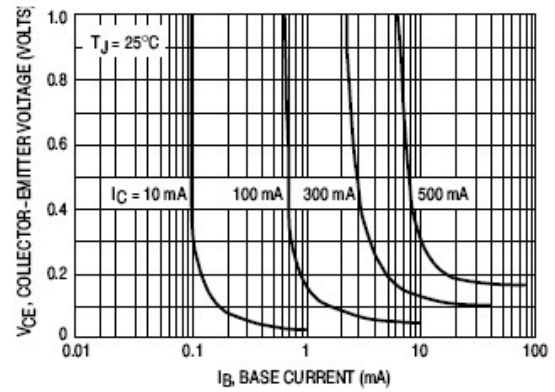


Figure 2. Saturation Region

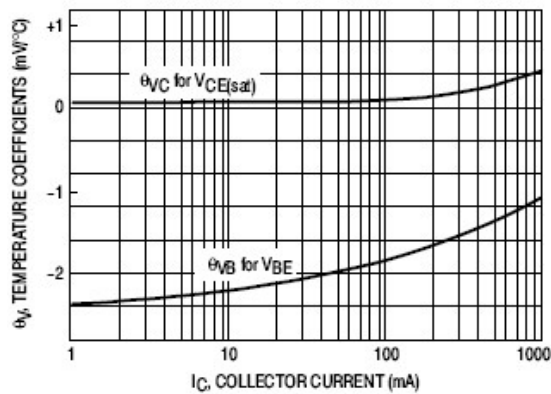


Figure 4. Temperature Coefficients

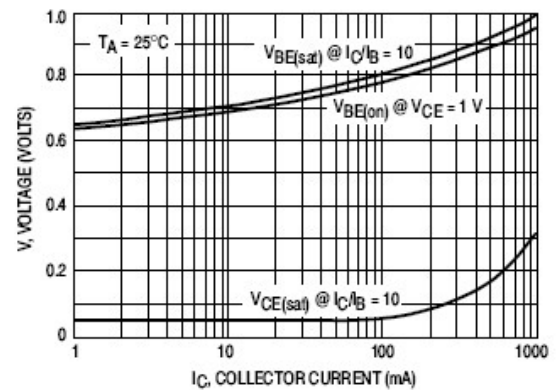


Figure 3. "On" Voltages

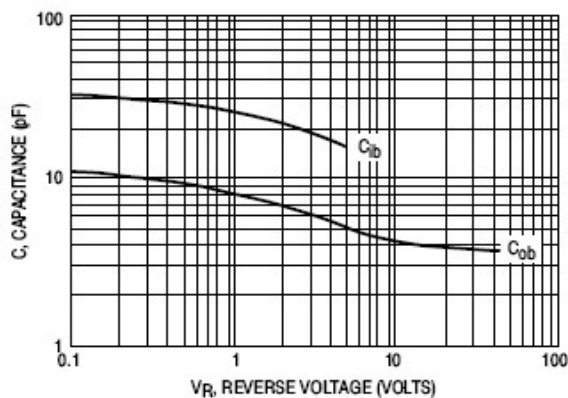


Figure 5. Capacitances

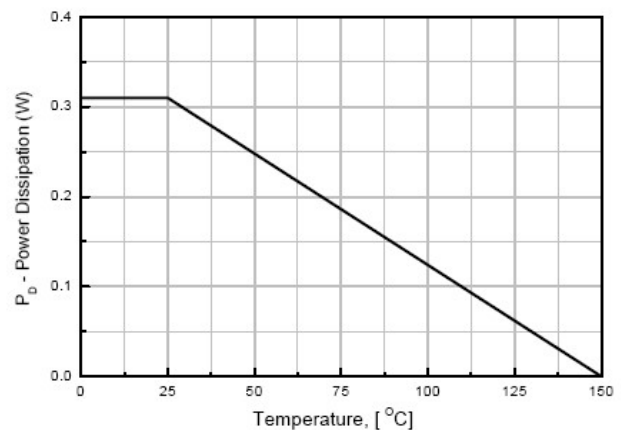
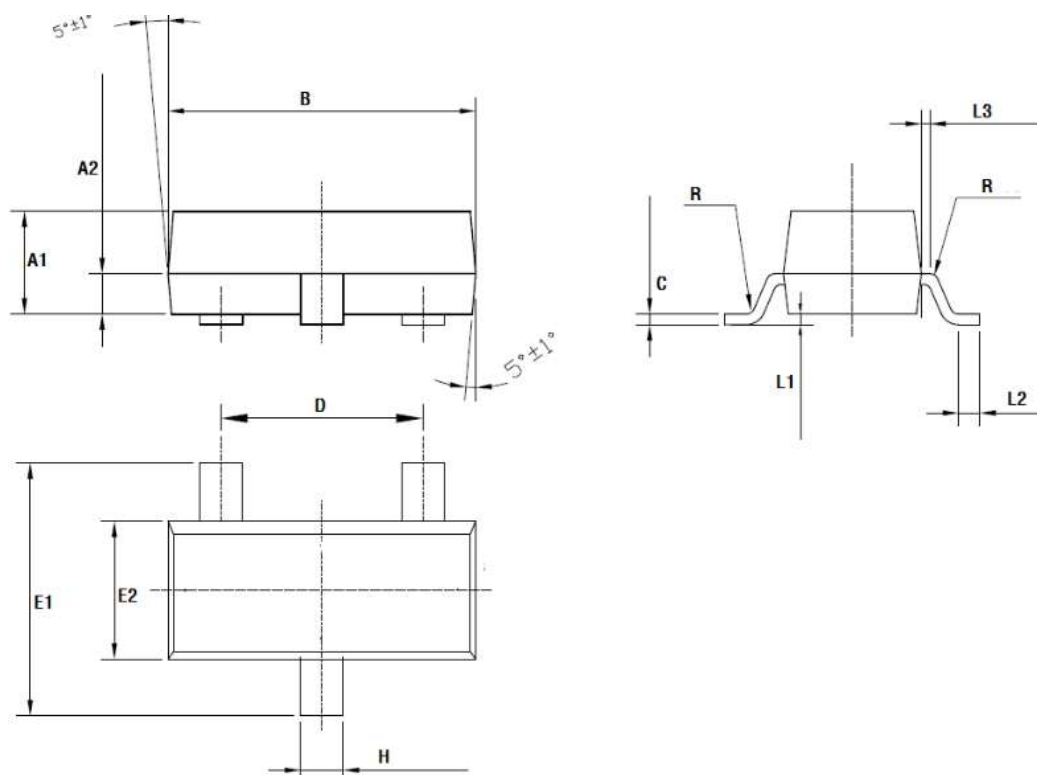
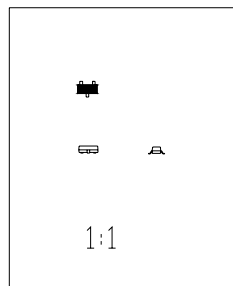
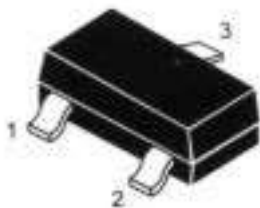


Figure 6. Power Dissipation vs Ambient Temperature

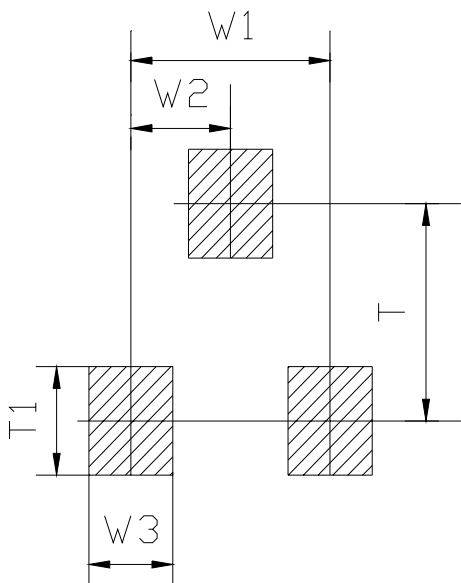


Symbol	Dimensions in Millimeters			内部结构 STYLS	管脚 PIN		
	Min	Nominal	Max		1 脚	2 脚	3 脚
A1	0.900	0.950	1.000	6	基极 BASE	发射极 EMITTER	集电极 COLLCTOR
A2	0.350	0.380	0.410				
B	2.800	2.900	3.000	8	阳极 ANODE	不连接 NO- CONNECTION	阴极 CATHODE
C	0.080	0.100	0.150				
D	1.800	1.900	2.000	9	阳极 ANODE	阳极 ANODE	阴极 CATHODE
E1	2.200	2.400	2.600				
E2	1.200	1.300	1.400	11	阳极 ANODE	阴极 CATHODE	阳极-阴极 ANODE-CATHODE
H	0.300	0.400	0.500				
L1	0.000		0.100	12	阴极 CATHODE	阴极 CATHODE	阳极 ANODE
L2	0.200						
L3	0.030	0.080	0.130	18	不连接 NO- CONNECTION	阴极 CATHODE	阳极 ANODE
R	0.080TYP						
				19	阴极 CATHODE	阳极 ANODE	阴极-阳极 CATHODE-ANODE



OUTSIDE

Scale 1:1 on letter size paper



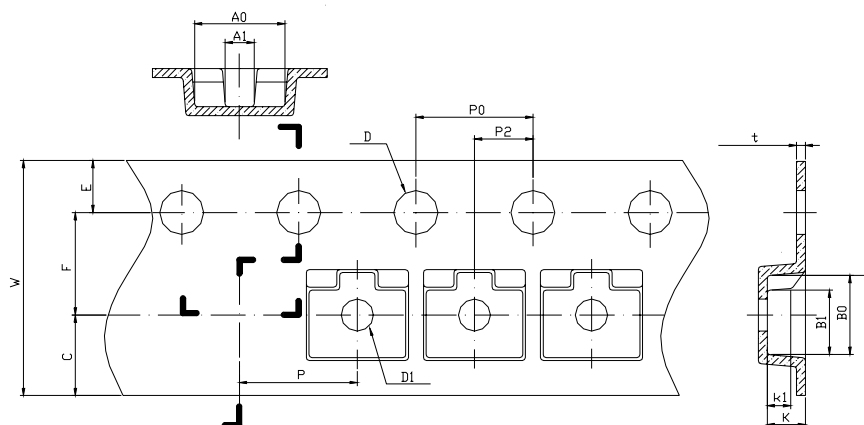
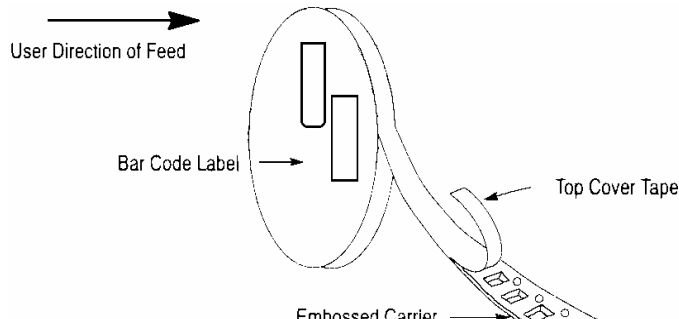
FOOTPRINTS FOR SOLDERING

Symbol	Dimensions in Millimeters	Dimensions in Inches
	Nominal	Nominal
W1	1.900	0.0748
W2	0.950	0.0374
W3	0.800	0.0315
T	2.000	0.0787
T1	1.000	0.0394



SOT-23 TAPE AND REEL DATA

SOT-23 PACKAGING:



Symbol	Dimensions in Millimeters			Dimensions in Inches		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
A0	3.000	3.150	3.300	0.1181	0.1240	0.1299
A1	0.950	1.100	1.250	0.0374	0.0433	0.0492
B0	2.670	2.770	2.870	0.1051	0.1090	0.1130
B1	2.000	2.150	2.300	0.0787	0.0846	0.0906
C	2.750TYP			0.1083TYP		
D	1.350	1.500	1.650	0.0531	0.0591	0.0650
D1	0.900	1.050	1.150	0.0354	0.0394	0.0453
E	1.650	1.750	1.850	0.0650	0.0689	0.0728
F	3.400	3.500	3.600	0.1339	0.1378	0.1417
K	1.020	1.220	1.420	0.0402	0.0480	0.0559
K1	0.850TYP			0.03346TYP		
P	3.900	4.000	4.100	0.1535	0.1575	0.1614
P0	3.900	4.000	4.100	0.1535	0.1575	0.1614
P010	39.800	40.000	40.200	1.5669	1.5748	1.5827
P2	1.950	2.000	2.050	0.0768	0.0787	0.0807
t	0.190	0.210	0.230	0.0075	0.0083	0.0098
W	7.900	8.000	8.300	0.3110	0.3150	0.3268