

### ABSOLUTE MAXIMUM RATINGS at Ta=25

Characteristic	Symbol	Rating	Unit
Reverse Voltage	$V_R$	30	Vdc
Forward Power Dissipation @ $T_A=25$	$P_F$	225	mW
Derate above 25		1.8	mW/
Junction Temperature	$T_j$	125	
Storage Temperature	$T_{stg}$	-55-150	

Package:SOT-23



### ELECTRICAL CHARACTERISTICS at Ta=25

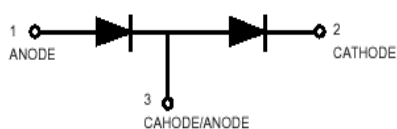
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage( $I_R=10\mu A$ )	$V_{(BR)R}$	30			Volts
Reverse Leakage( $V_R=25V$ )	$I_R$		0.5	2.0	$\mu A$
Total Capacitance( $V_R=1.0V$ $f=1.0MHz$ )	$C_T$		7.6	10	PF
Forward Voltage					
$I_F=0.1mA$	$V_F$		0.22	0.24	Vdc
$I_F=1.0mA$			0.29	0.32	
$I_F=10mA$			0.35	0.40	
$I_F=30mA$			0.41	0.5	
$I_F=100mA$			0.52	1.0	
Reverse Recovery Time ( $I_F=I_R=10mA, I_{R(REC)}=1.0mA$ )	$T_{rr}$			5.0	ns

Note:FR-5=1.0 0.75 0.062in

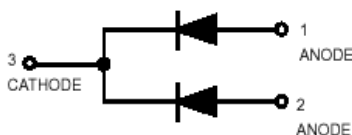
### INTERNAL CONFIGURATION AND DEVICE MARKING:



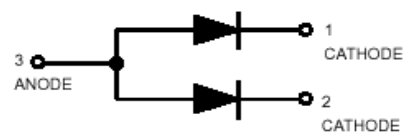
BAT54 (LV3)



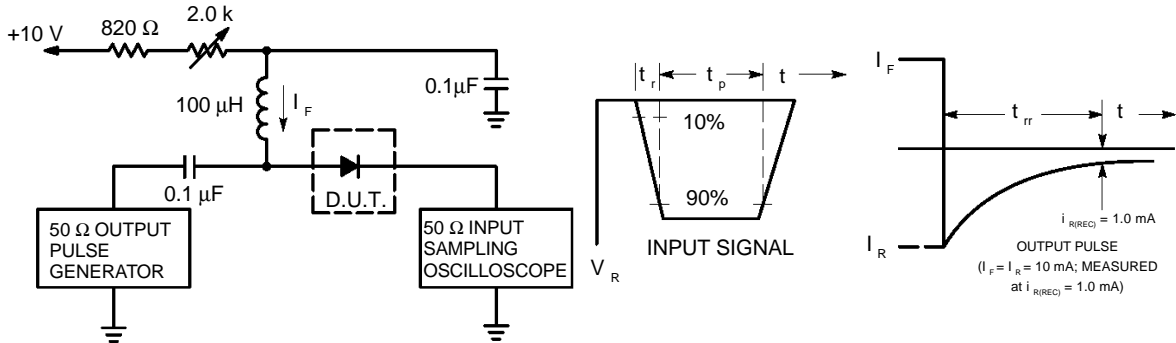
BAT54S (LD3)



BAT54C (KL3)

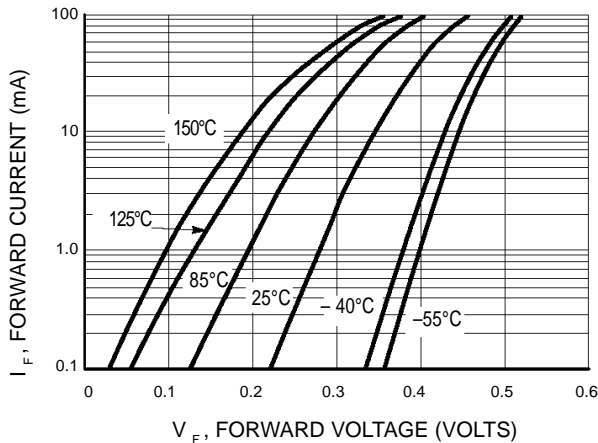


BAT54A (B6)

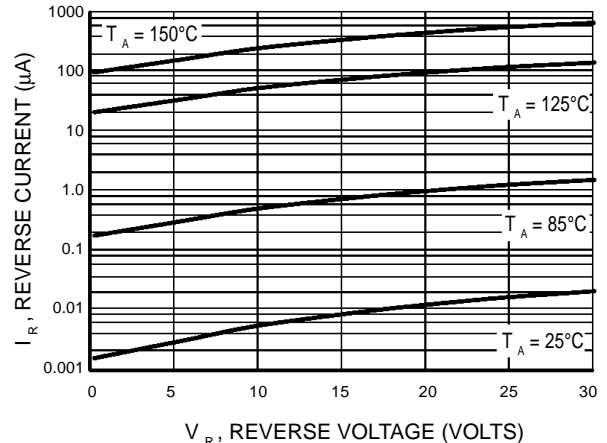


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10mA.  
 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10mA.  
 3.  $t_p \gg t_{rr}$

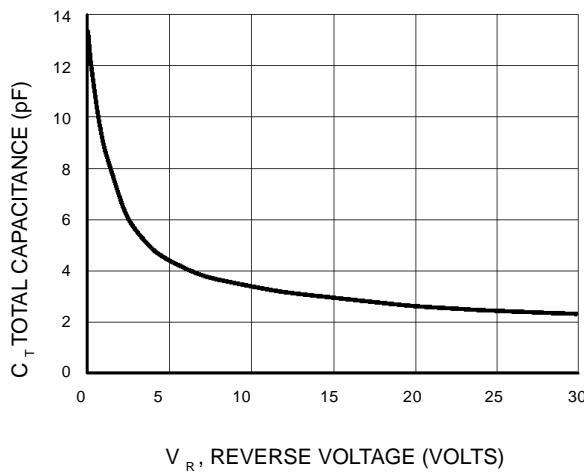
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



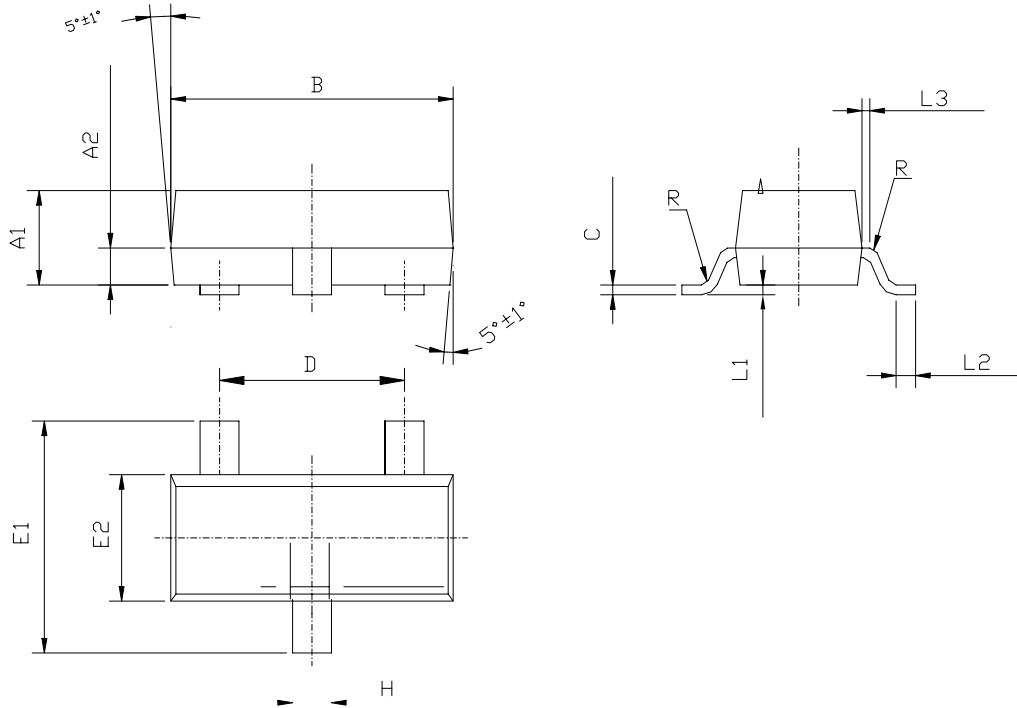
**Figure 3. Leakage Current**



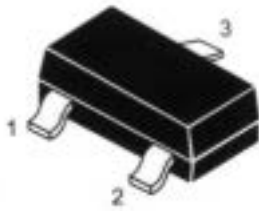
**Figure 4. Total Capacitance**

外型尺寸及内部结构图

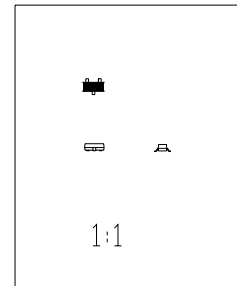
OUTSIDE DEMENSION AND INTERNAL CONFIGURATION (SOT-23)



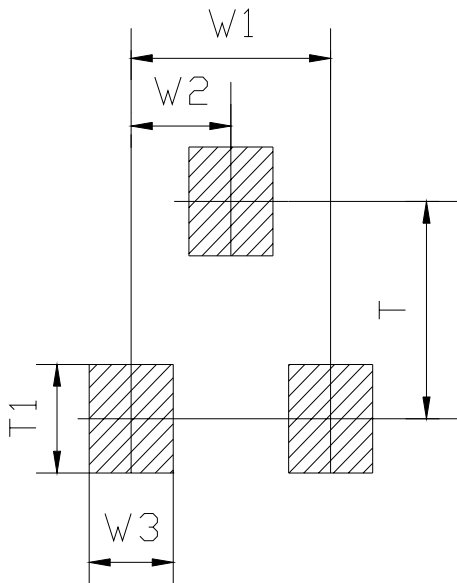
Symbol	Dimensions in Millimeters			STYLS	PIN		
	Min	Nominal	Max		1	2	3
A1	0.900	0.970	1.000	6	BASE	EMITTER	COLLECTOR
A2	0.350	0.380	0.410		B	2.800	2.900
B	2.800	2.900	3.000	8	ANODE	NO-CONNECTION	CATHODE
C	0.085	0.100	0.150		D	1.800	1.900
D	1.800	1.900	2.000	9	ANODE	ANODE	CATHODE
E1	2.200	2.400	2.600		E2	1.200	1.300
E2	1.200	1.300	1.400	11	ANODE	CATHODE	-
H	0.300	0.400	0.500		L1	0.000	
L1	0.000		0.100	12	CATHODE	CATHODE	ANODE
L2	0.200				L3	0.030	0.080
L3	0.030	0.080	0.130	18	NO-CONNECTION	CATHODE	ANODE
R	0.080TYP				19	CATHODE	ANODE
							CATHODE-ANODE



OUTSIDE



Scale 1:1 on letter size paper

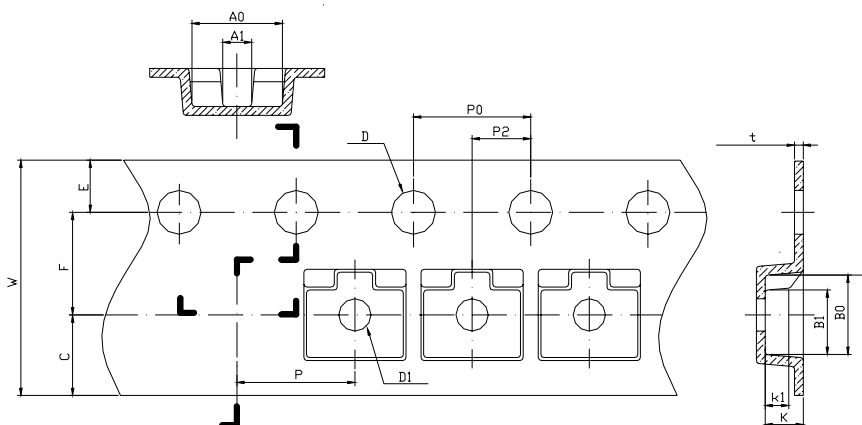
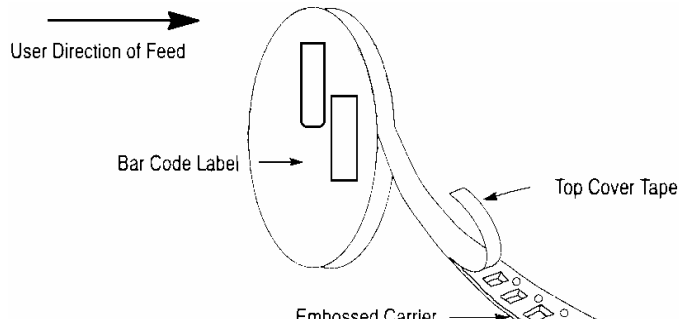


FOOTPRINTS FOR SOLDERING

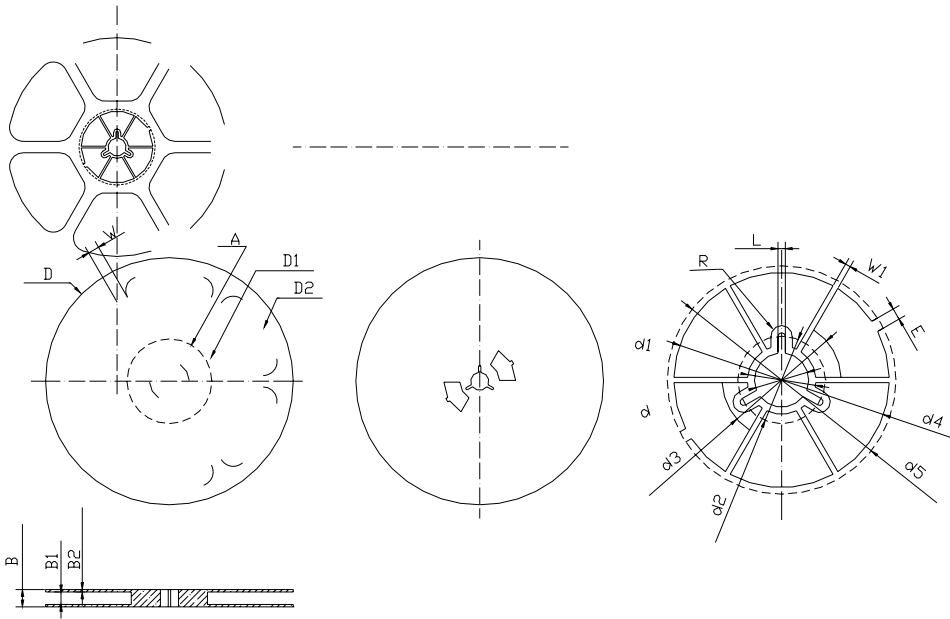
Symbol	Dimensions in Millimeters	Dimensions in Inches
	Nominal	Nominal
W1	1.900	0.0748
W2	0.950	0.0374
W3	0.800	0.0315
T	2.000	0.0787
T1	1.000	0.0394

## SOT-23 TAPE AND REEL DATA

### SOT-23 PACKAGING:



Symbol	Dimensions in Millimeters			Dimensions in Inches		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
A0	3.050	3.150	3.250	0.1201	0.1240	0.1280
A1	0.900	1.000	1.100	0.0354	0.0394	0.0433
B0	2.669	2.769	2.869	0.1051	0.1090	0.1130
B1	2.100	2.200	2.300	0.0827	0.0866	0.0906
C	2.750TYP			0.1083TYP		
D	1.500	1.500	1.600	0.0591	0.0591	0.0630
D1	0.900	1.000	1.100	0.0354	0.0394	0.0433
E	1.650	1.750	1.850	0.0650	0.0689	0.0728
F	3.450	3.500	3.550	0.1358	0.1378	0.1398
K	1.119	1.219	1.319	0.0441	0.0480	0.0519
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	0.216	0.229	0.242	0.0085	0.0090	0.0095
W	7.900	8.000	8.300	0.3110	0.3150	0.3268



Symbol	Dimensions in Millimeters			Dimensions in Inches		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
B	-	-	12.500	-	-	0.4921
B1	8.900	9.000	9.100	0.3504	0.3543	0.3583
B2	1.700	1.750	1.800	0.0669	0.0689	0.0709
D	φ177.000	φ178.000	φ179.000	Φ6.9685	Φ7.0079	Φ7.0472
D1	Φ67.600TYP			Φ2.6614TYP		
D2	Φ157.600TYP			Φ6.2047 TYP		
d	Φ12.800	Φ13.000	Φ13.200	Φ0.5039	Φ0.5118	Φ0.5197
d1	Φ16.40 TYP			Φ0.6457 TYP		
d2	Φ21.000 TYP			Φ0.8268 TYP		
d3	Φ25.200 TYP			Φ0.99221TYP		
d4	Φ50.600	Φ51.600	Φ52.600	Φ1.9921	Φ2.0315	Φ2.0709
d5	Φ53.800	Φ54.800	Φ55.800	Φ2.1181	Φ2.1575	Φ2.1969
E	2.800 TYP			0.1102TYP		
L	1.750 TYP			0.0689 TYP		
R	2.575 TYP			0.1014 TYP		
W	15.000 TYP			0.5906 TYP		
W1	1.300 TYP			0.0512 TYP		