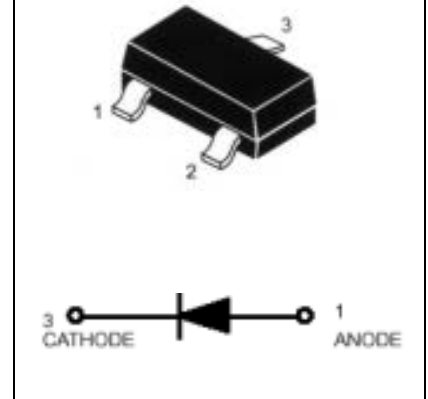


- \* Fast Switching Speed
- \* Electrically Identical to Standard JEDEC 1N4148
- \* High Conductance
- \* Surface Mount Package Ideally Suited for Automatic Insertion

Package:SOT-23



### ABSOLUTE MAXIMUM RATINGS at Ta=25

Characteristic	Symbol	Rating	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	75	V
working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current(Note)	$I_{FM}$	300	mA
Power Dissipation(Note)	$P_D$	350	mW
Derate Above 25		2.8	mW/
Junction Temperature	$T_j$	150	
Storage Temperature	$T_{stg}$	-55-150	

### ELECTRICAL CHARACTERISTICS at Ta=25

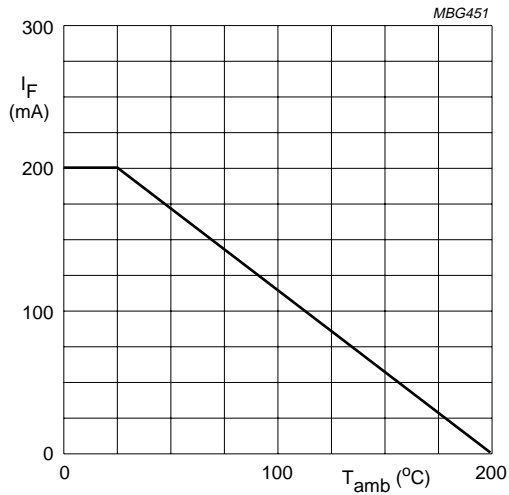
Characteristic	Symbol	Min	Max	Unit	Test Conditions
Maximum Forward Voltage	$V_{FM}$		1.0	V	$I_F=10mA$
Maximum Peak Reverse Current	$I_{RM}$		5.0	$\mu A$	$V_R=75V$
			50	$\mu A$	$V_R=70V T_j=150$
			30	$\mu A$	$V_R=20V T_j=150$
			25	nA	$V_R=20V$
Capacitance	$C_j$		4.0	PF	$V_R=0 f=1.0MHz$
Reverse Recovery Time	$T_{rr}$		4.0	nS	$I_F=10mA$ to $I_{RR}=1.0mA$ $V_R=6.0V R_L=100$

Note:Diode On Ceramic Substrate 10mm 8.0mm 0.7mm

DEVICE MARKING:

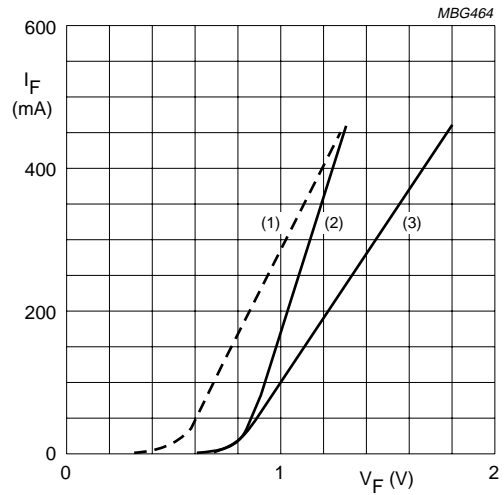
MMBD4148=A6

## GRAPHICAL DATA



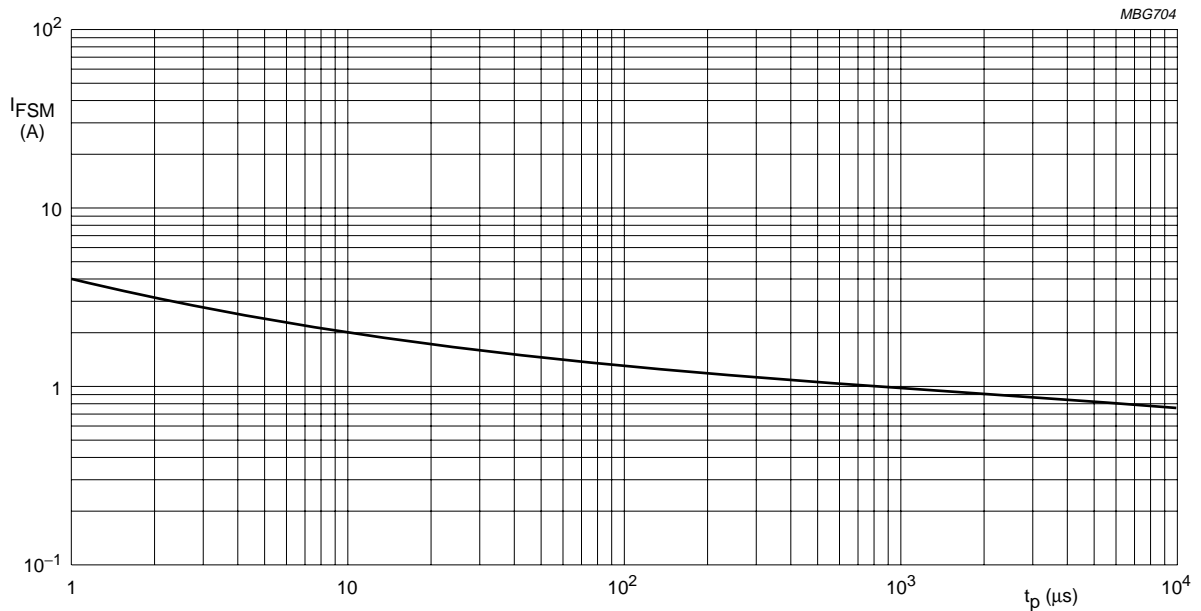
Device mounted on an FR4 printed-circuit board; lead length 10 mm.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



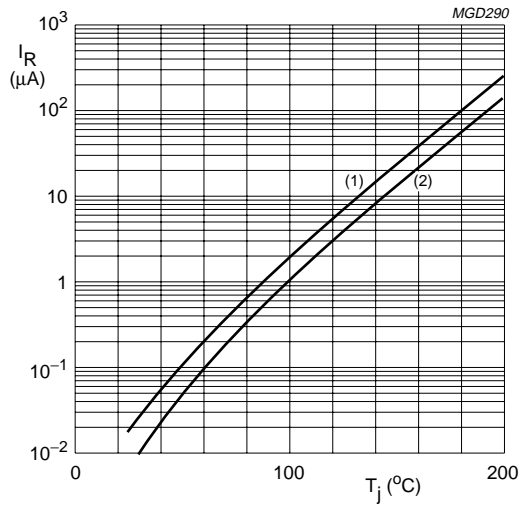
- (1)  $T_j = 175$  °C; typical values.
- (2)  $T_j = 25$  °C; typical values.
- (3)  $T_j = 25$  °C; maximum values.

Fig.3 Forward current as a function of forward voltage.



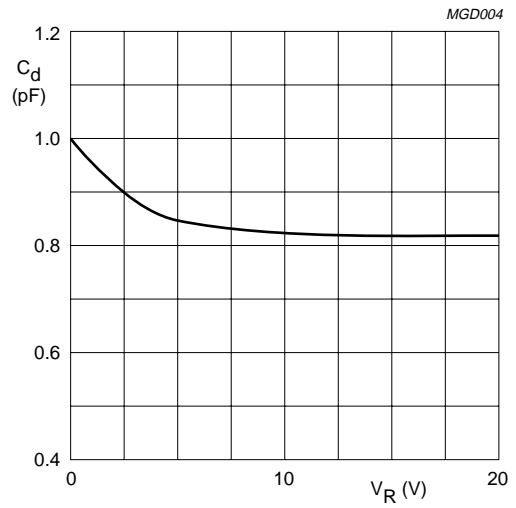
Based on square wave currents.  
 $T_j = 25$  °C prior to surge.

Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.



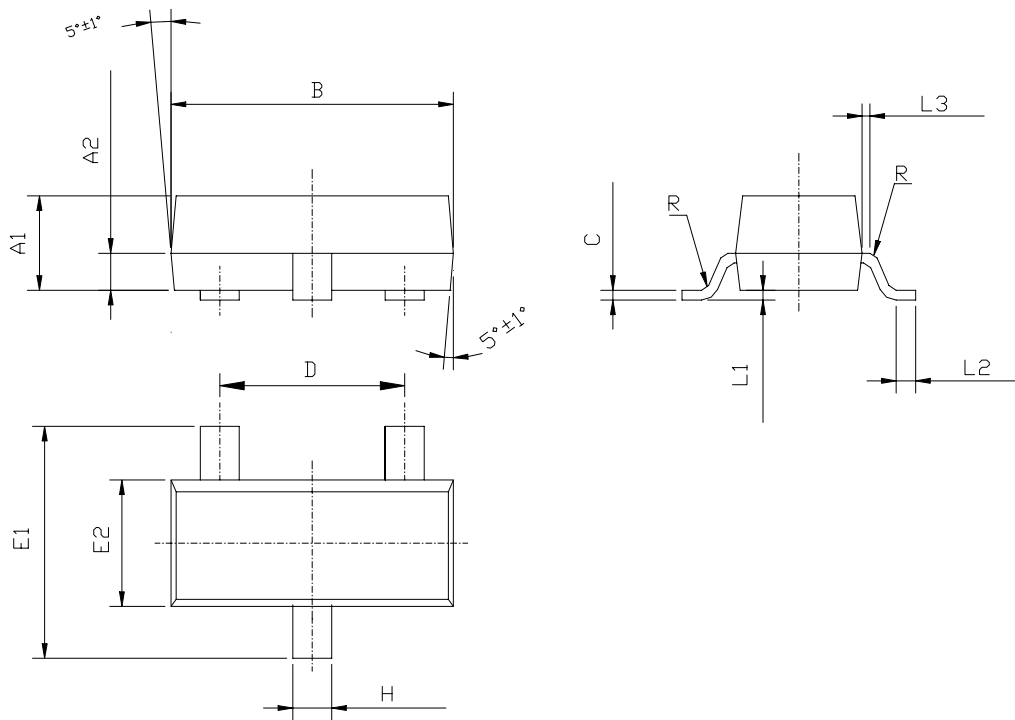
- (1)  $V_R = 75\text{ V}$ ; typical values.
- (2)  $V_R = 20\text{ V}$ ; typical values.

Fig.5 Reverse current as a function of junction temperature.

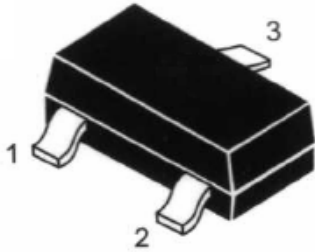


$f = 1\text{ MHz}$ ;  $T_j = 25\text{ }^\circ\text{C}$ .

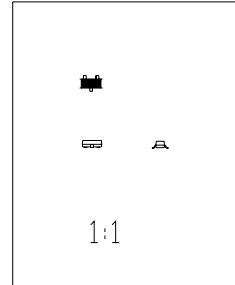
Fig.6 Diode capacitance as a function of reverse voltage; typical values.



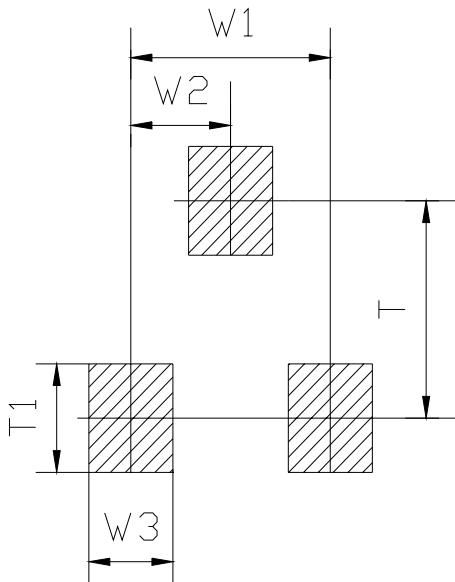
Symbol	Dimensions in Millimeters			内部结构 STYLS	管脚 PIN		
	Min	Nominal	Max		1 脚	2 脚	3 脚
A1	0.900	0.970	1.000	6	基极 BASE	发射极 EMITTER	集电极 COLLECTOR
A2	0.350	0.380	0.410		8	阳极 ANODE	不连接 NO- CONNECTION
B	2.800	2.900	3.000	9		阳极 ANODE	阳极 ANODE
C	0.085	0.100	0.150		11	阳极 ANODE	阴极 CATHODE
D	1.800	1.900	2.000	12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



OUTSIDE



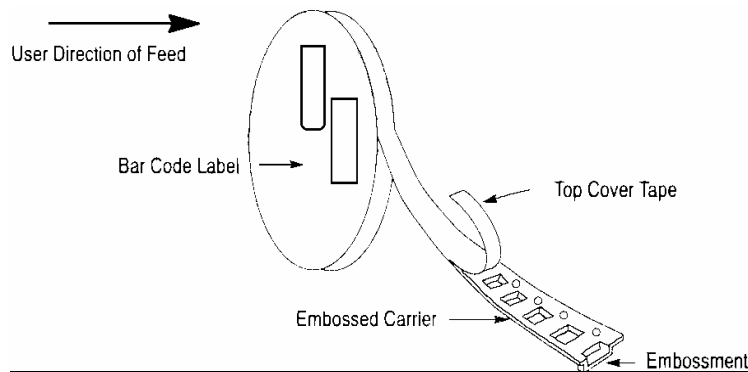
Scale 1:1 on letter size paper



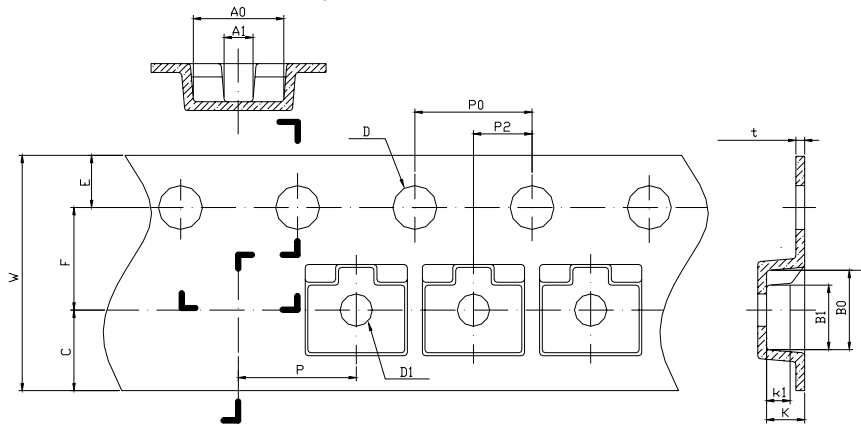
FOOTPRINTS FOR SOLDERING

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 PACKAGING:

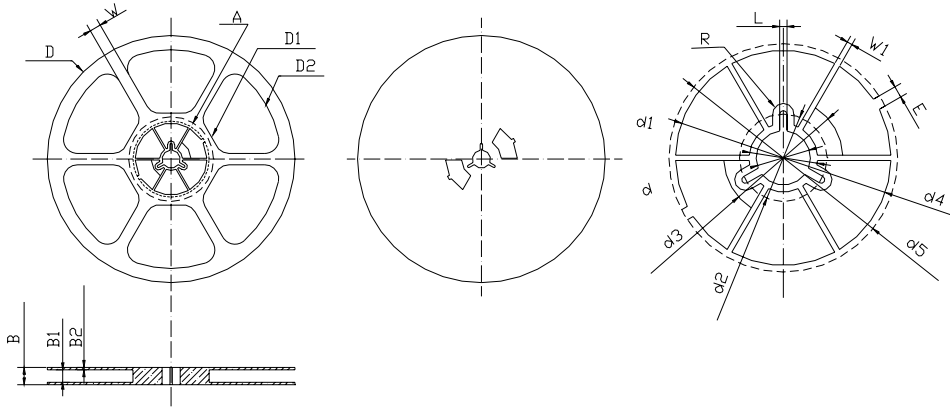


### SOT-23 EMBOSSED CARRIER TAPE:



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

**SOT-23 REEL DATA:**



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	$\phi$ 177.000	$\phi$ 178.000	$\phi$ 179.000	$\Phi$ 6.9685	$\Phi$ 7.0079	$\Phi$ 7.0472
D1	$\Phi$ 67.600 TYP			$\Phi$ 2.6614 TYP		
D2	$\Phi$ 157.600 TYP			$\Phi$ 6.2047 TYP		
d	$\Phi$ 12.800	$\Phi$ 13.000	$\Phi$ 13.200	$\Phi$ 0.5039	$\Phi$ 0.5118	$\Phi$ 0.5197
d1	$\Phi$ 16.40 TYP			$\Phi$ 0.6457 TYP		
d2	$\Phi$ 21.000 TYP			$\Phi$ 0.8268 TYP		
d3	$\Phi$ 25.200 TYP			$\Phi$ 0.9922 TYP		
d4	$\Phi$ 50.600	$\Phi$ 51.600	$\Phi$ 52.600	$\Phi$ 1.9921	$\Phi$ 2.0315	$\Phi$ 2.0709
d5	$\Phi$ 53.800	$\Phi$ 54.800	$\Phi$ 55.800	$\Phi$ 2.1181	$\Phi$ 2.1575	$\Phi$ 2.1969
E	2.800 TYP			0.1102 TYP		
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		