

SOT23 封装半导体二极管/SOT23 Plastic-Encapsulate Diodes

BAW56X&BAV70X&BAV99X

(SWITCHING DIODES)

用途/Applications:

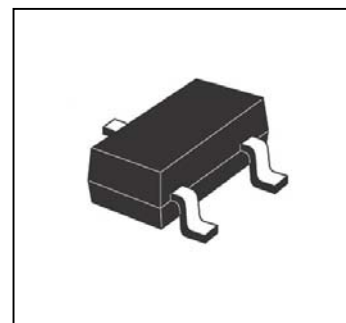
高速开关电路。

特点/Features:

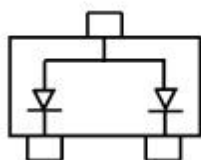
速度快;

湿度敏感等级: MSL3

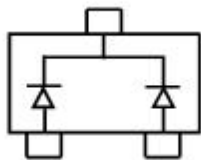
ROHS



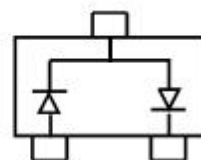
电路和印章/Circuit&Marking:



BAW56X Marking: A1



BAV70X Marking: A4



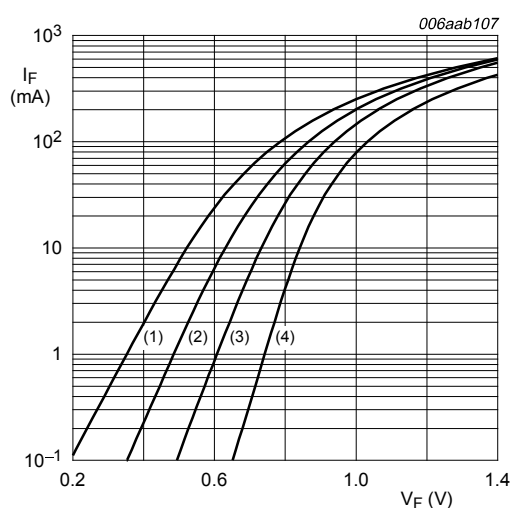
BAV99X Marking: A7

极限参数/Absolute maximum ratings (Ta=25°C)

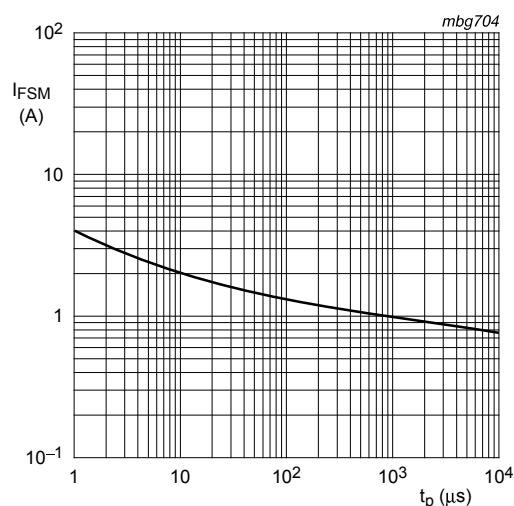
参数/Parameter	符号/ Symbol	数值/Value	单位/Unit
反向电压/Reverse Voltage	V_R	100	V
正向电流/Forward Current	I_F	200	mA
正向瞬间峰值电流/Peak Forward Surge Current	$I_{FM(surge)}$	500	mA
功率/ Power Dissipation	P_D	0.225	W
热阻/Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	556	°C/W
结温/Junction Temperature	T_j	50	°C
储存温度/Storage Temperature	T_{stg}	-55~150	°C
工作温度/Operating Temperature	T	-55~150	°C

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电性能参数/Electrical characteristics (Ta=25°C)

参数/Parameter	符号	测试条件	最小值	最大值	单位
反向击穿电压/Reverse Breakdown Voltage	V_R	$I_R=100\ \mu A$	70		V
正向电压/Forward Voltage	V_{F1}	$I_F=1mA$		0.715	V
	V_{F2}	$I_F=10mA$		0.855	V
	V_{F3}	$I_F=50mA$		1	V
	V_{F4}	$I_F=150mA$		1.25	V
反向漏电流/Reverse Current	I_R	$V_R=70V$		2.5	μA
端电容/Capacitance Between Terminals	C_T	$V_R=0, f=1MHz$		1.5	pF
反向恢复时间/Reverse Recovery Time	t_{rr}	$I_F=I_R=10mA,$ $I_{rr}=0.1 \times I_R,$		6	nS
浪涌电流/Surge Forward Current	I_{FSM}	$t=1.0\ \mu s$ $t=1.0\ ms$ $t=1.0\ s$		2 1 0.5	A

典型特性曲线图/Typical Characteristics


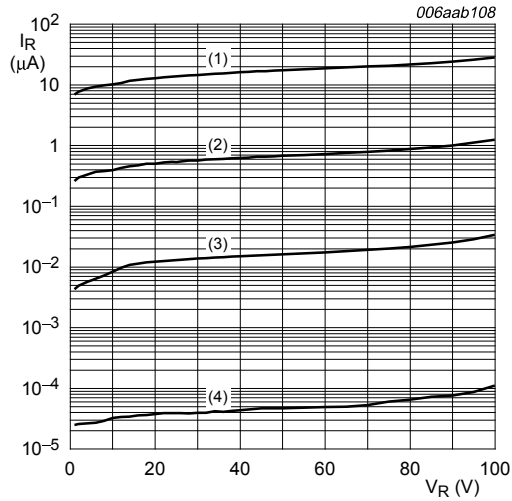
- (1) $T_{amb} = 150\ ^\circ C$
- (2) $T_{amb} = 85\ ^\circ C$
- (3) $T_{amb} = 25\ ^\circ C$
- (4) $T_{amb} = -40\ ^\circ C$

Fig 1. Forward current as a function of forward voltage; typical values


Based on square wave currents.
 $T_j = 25\ ^\circ C$; prior to surge

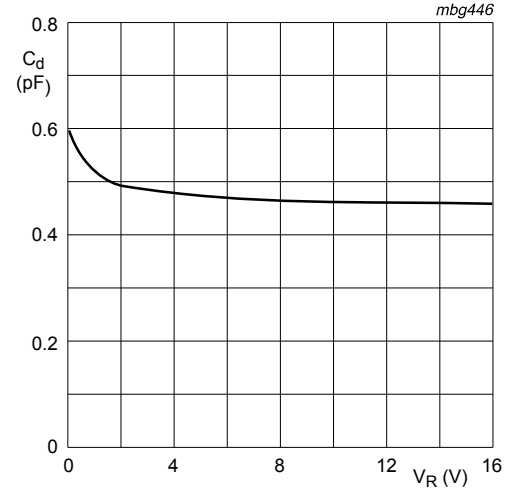
Fig 2. Non-repetitive peak forward current as a function of pulse duration; maximum values

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- (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 85\text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 25\text{ }^{\circ}\text{C}$
- (4) $T_{amb} = -40\text{ }^{\circ}\text{C}$

Fig 3. Reverse current as a function of reverse voltage; typical values

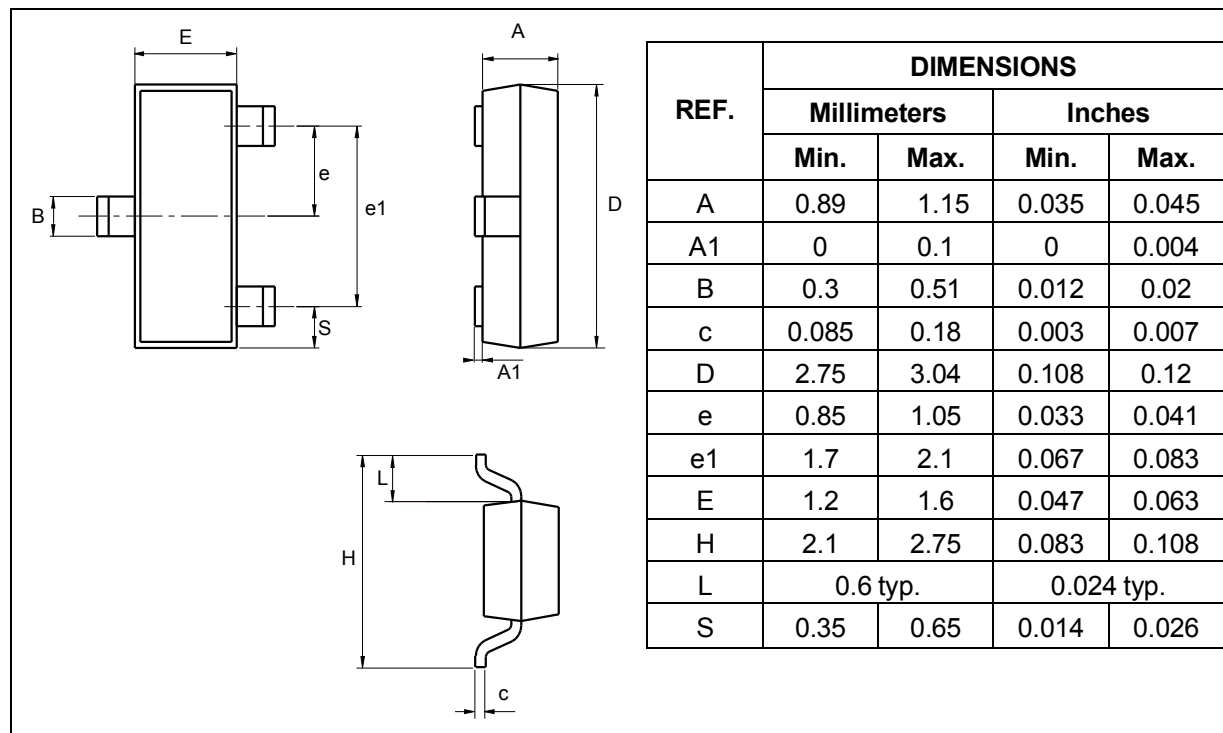


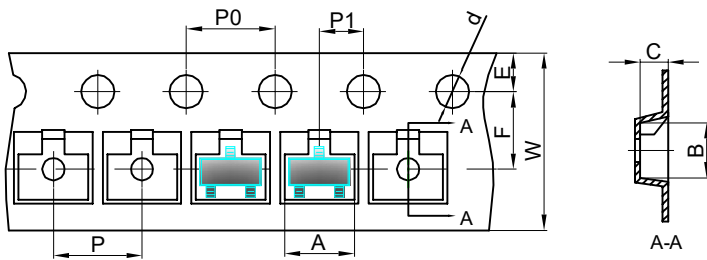
$f = 1\text{ MHz}; T_{amb} = 25\text{ }^{\circ}\text{C}$

Fig 4. Diode capacitance as a function of reverse voltage; typical values

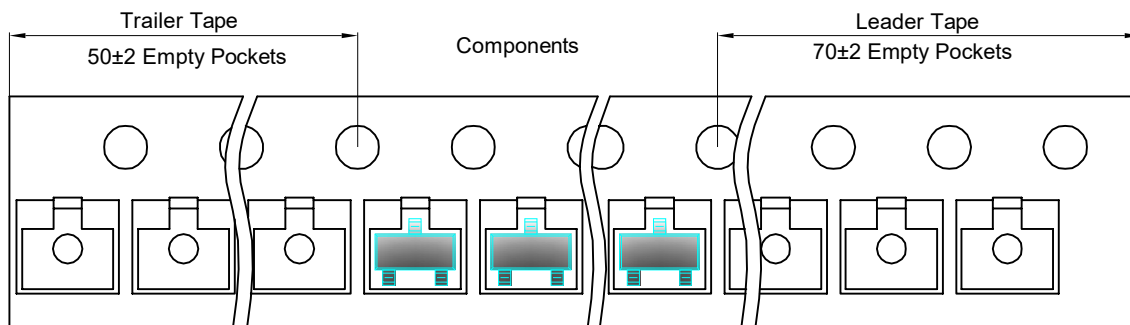
PACKAGE MECHANICAL DATA

SOT23

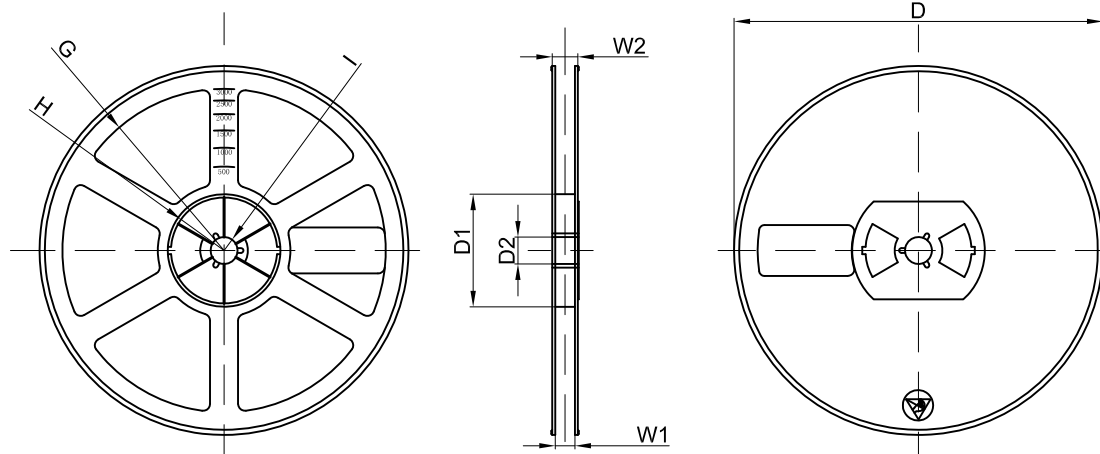


SOT23 封装半导体二极管/SOT23 Plastic Encapsulate Diodes
编带料盘规格
SOT23 Tape and reel
SOT23 Embossed Carrier Tape


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT23 Tape Leader and Trailer

SOT23 Reel

3000 pcs



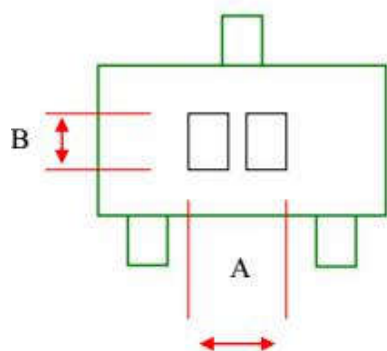
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

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Marking 说明

如下图

1. 印字尺寸要求



NO.		标准值	公差
A	2 个字符	1.0mm	±0.05mm
	3 个字符	1.6mm	±0.05mm
	4 个字符	2.0mm	±0.05mm
	5 个字符	2.3mm	±0.05mm
	6 个字符	2.35mm	±0.05mm
B		0.70mm	±0.05mm

注：其它非整齐类特殊印字见生产流程卡或订单。

2. 例如：BAV70 印字内容

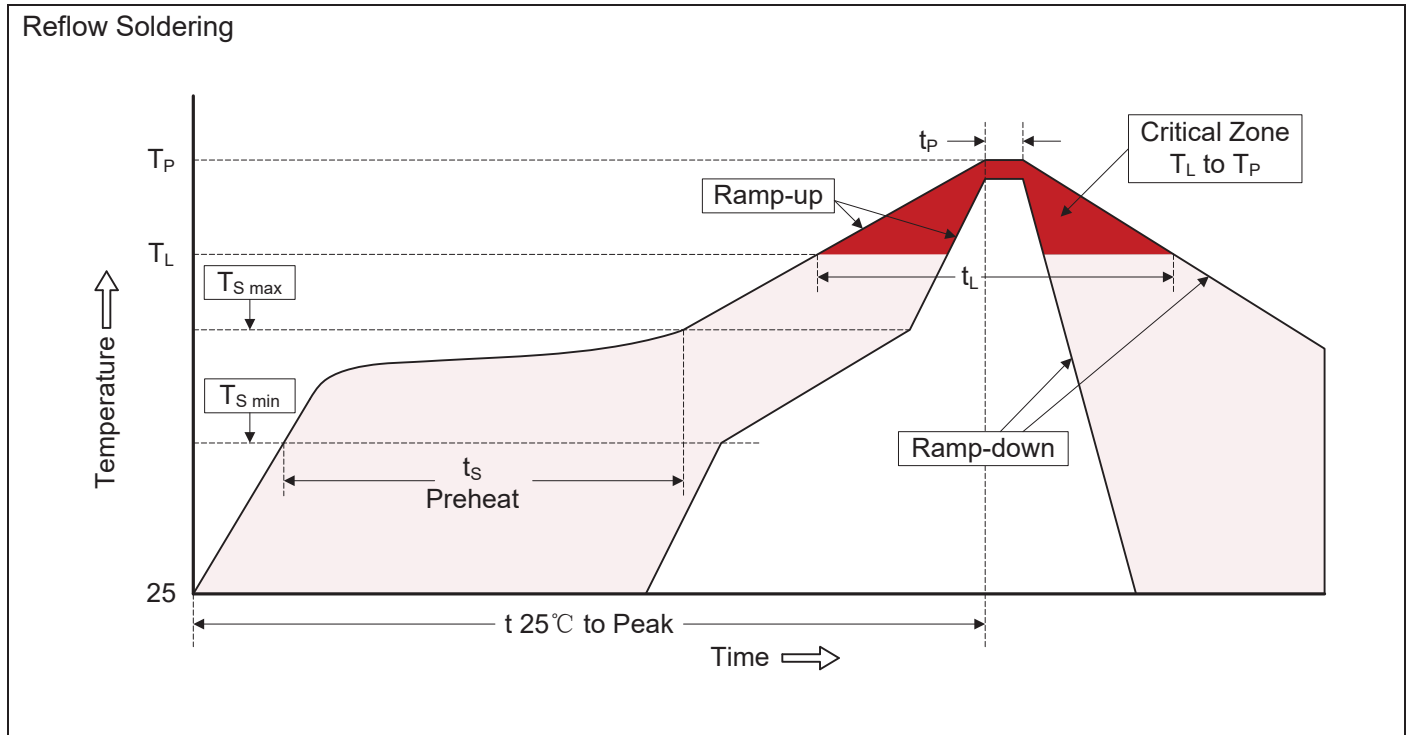


Note:

(1) 'A4' indicate BAV70, fixed

1. Ordering Information

Part number	Quantity per reel	package	Marking
BAW56X	3000	Sot-23	A1
BAV70X	3000	Sot-23	A4
BAV99X	3000	Sot-23	A7

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Recommended Soldering Conditions

Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.