

BRBZT52BXXXQ

Rev.B Jan.-2024

描述 / Descriptions

SOD-123 塑封封装 稳压二极管。

Zener Diode in a SOD-123 Plastic Package.

特征 / Features

500mW 功耗，中等电流，自动贴片组装，符合 AEC-Q101 标准高可靠性要求，无卤产品。

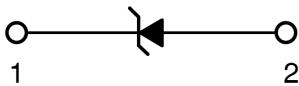
500mW power dissipation, medium current, automated assembly processes, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

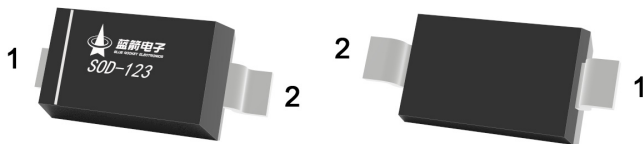
适用于 2.4V-39V 的宽范围稳压电路，满足汽车应用的严格要求。

2.4V to 39V wide zener voltage range applications, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1:Cathode

PIN2:Anode

印章代码 / Marking

见印章说明。

See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Forward Voltage (Note 2) I _F =10mA	V _F	0.9	V
Power Dissipation(Note 1)	P _D	500	mW
Typical Thermal Resistance Junction to Ambient(Note 1)	R _{θJA}	305	°C/W
Junction and Storage Temperature Range	T _j , T _{stg}	-65~150	°C

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

Type Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		V _Z @I _{ZT}			I _{ZT}	Z _{KT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	@V _R
		Nom (V)	Min (V)	Max (V)	mA	Ω		mA	μA	V
BRBZT52B2V4Q	Q0Z	2.4	2.35	2.45	5	94	564	1	45	1
BRBZT52B2V7Q	Q1Z	2.7	2.65	2.75	5	94	564	1	18	1
BRBZT52B3V0Q	Q2Z	3.0	2.94	3.06	5	89	564	1	9	1
BRBZT52B3V3Q	Q3Z	3.3	3.23	3.37	5	89	564	1	4.5	1
BRBZT52B3V6Q	Q4Z	3.6	3.53	3.67	5	84	564	1	4.5	1
BRBZT52B3V9Q	Q5Z	3.9	3.82	3.96	5	84	564	1	2.7	1
BRBZT52B4V3Q	Q6Z	4.3	4.21	4.39	5	84	564	1	2.7	1
BRBZT52B4V7Q	Q7Z	4.7	4.61	4.79	5	75	564	1	2.7	2
BRBZT52B5V1Q	Q8Z	5.1	5.00	5.20	5	56	470	1	1.8	2
BRBZT52B5V6Q	Q9Z	5.6	5.49	5.71	5	27	451	1	0.9	2
BRBZT52B6V2Q	QAZ	6.2	6.08	6.32	5	9	376	1	2.7	4
BRBZT52B6V8Q	QBZ	6.8	6.66	6.94	5	14	141	1	1.8	4
BRBZT52B7V5Q	QCZ	7.5	7.35	7.65	5	14	75	1	0.9	5
BRBZT52B8V2Q	QDZ	8.2	8.04	8.36	5	14	75	1	0.63	5
BRBZT52B9V1Q	QEZ	9.1	8.92	9.28	5	14	94	1	0.45	6
BRBZT52B10Q	QFZ	10	9.80	10.20	5	18	141	1	0.18	7
BRBZT52B11Q	QGZ	11	10.78	11.22	5	18	141	1	0.09	8

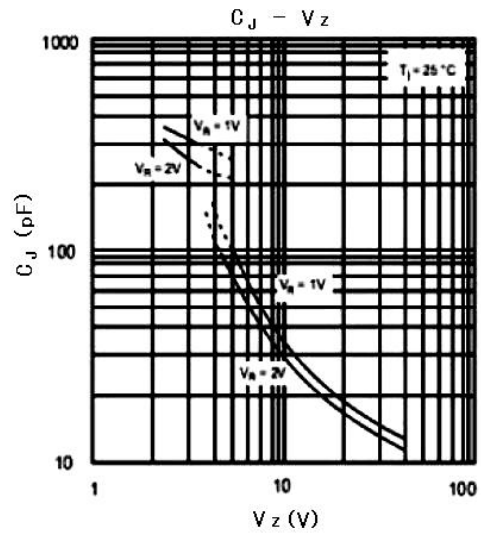
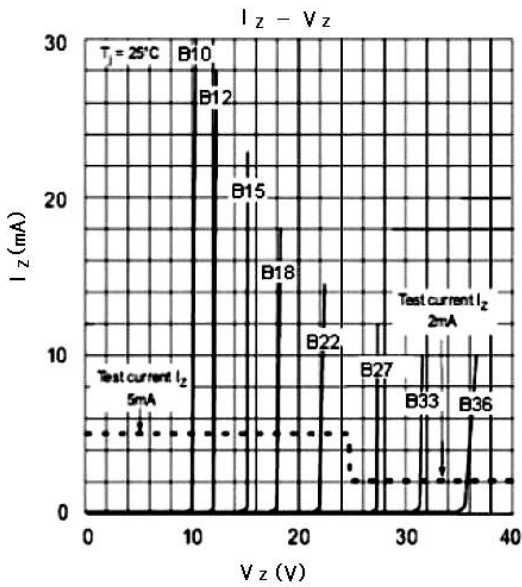
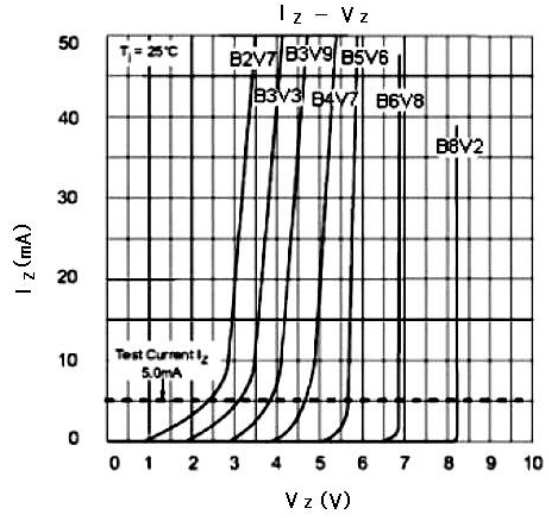
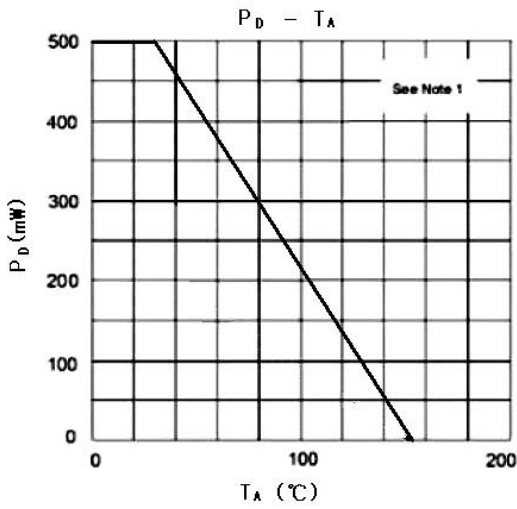
电性能参数 / Electrical Characteristics(Ta=25°C)

Type Number	Marking Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current	
		V _z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	@V _R
		Nom (V)	Min (V)	Max (V)	mA	Ω		mA	uA	V
BRBZT52B12Q	QHZ	12	11.76	12.24	5	23	141	1	0.09	8
BRBZT52B13Q	QJZ	13	12.74	13.26	5	28	160	1	0.045	8
BRBZT52B15Q	QKZ	15	14.70	15.30	5	28	188	1	0.045	10.5
BRBZT52B16Q	QLZ	16	15.68	16.32	5	37	188	1	0.045	11.2
BRBZT52B18Q	QMZ	18	17.64	18.36	5	42	212	1	0.045	12.6
BRBZT52B20Q	QNZ	20	19.60	20.40	5	51	212	1	0.045	14.0
BRBZT52B22Q	QPZ	22	21.56	22.44	5	51	235	1	0.045	15.4
BRBZT52B24Q	QRZ	24	23.52	24.48	5	65	235	1	0.045	16.8
BRBZT52B27Q	QSZ	27	26.46	27.54	2	75	282	0.5	0.045	18.9
BRBZT52B30Q	QTZ	30	29.40	30.60	2	75	282	0.5	0.045	21.0
BRBZT52B33Q	QUZ	33	32.34	33.66	2	75	306	0.5	0.045	23.0
BRBZT52B36Q	QVZ	36	35.28	36.72	2	84	329	0.5	0.045	25.2
BRBZT52B39Q	QWZ	39	38.22	39.78	2	122	329	0.5	0.045	27.3

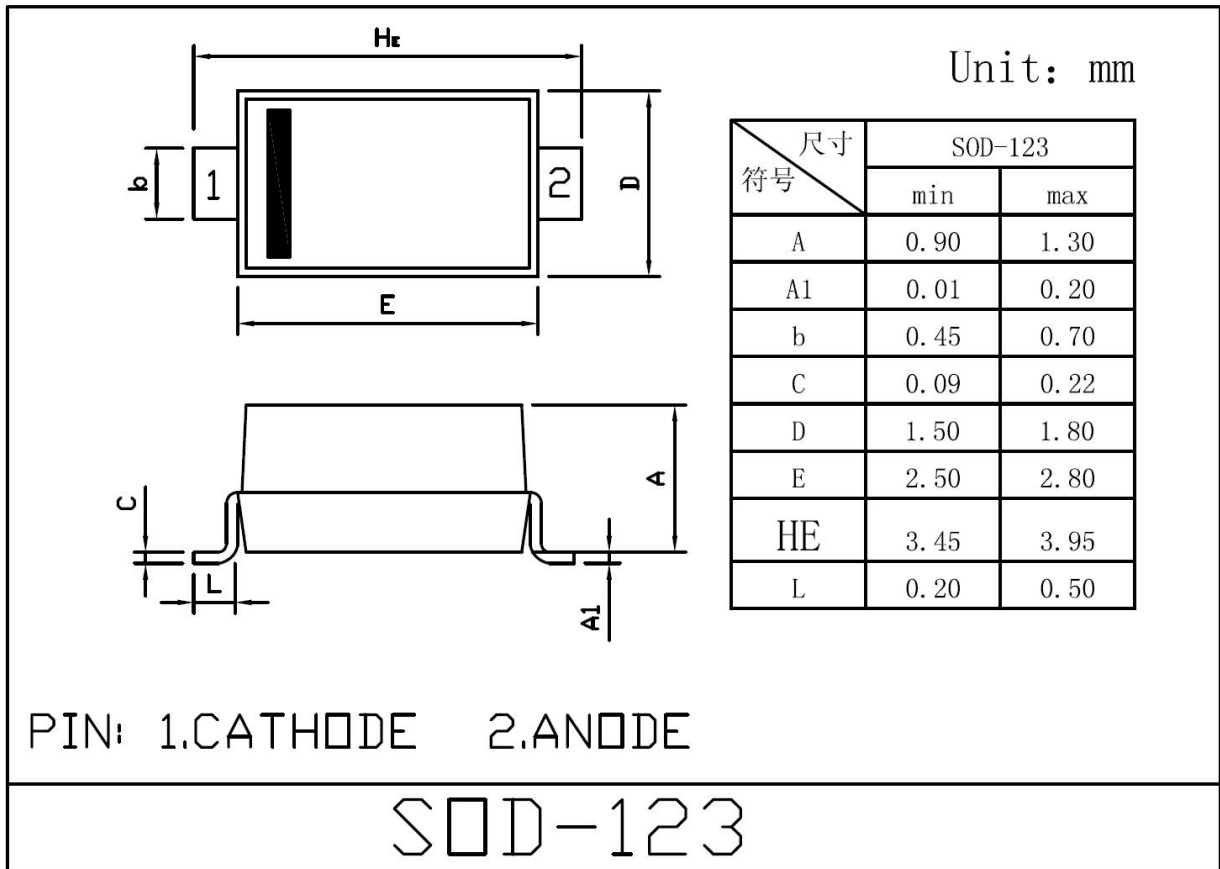
Notes:

1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1kHz.

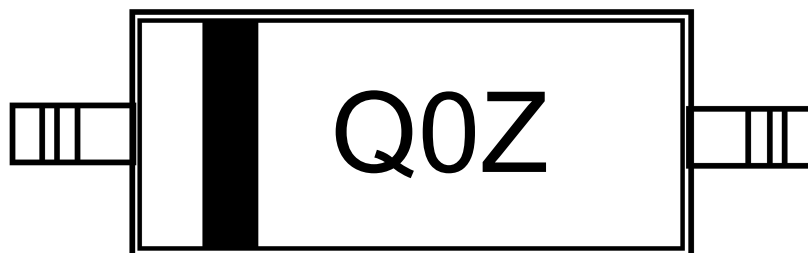
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions



印章说明 / Marking Instructions



说明：

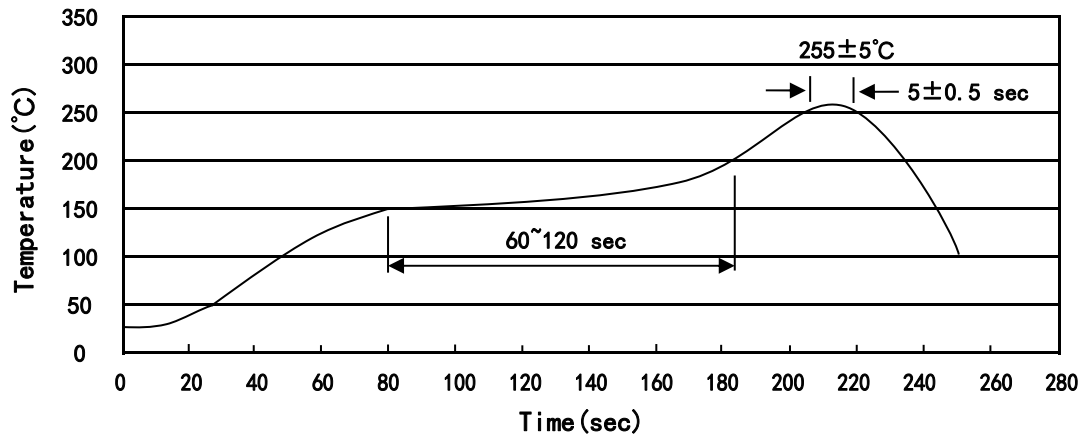
Q： 为汽车无卤产品标识

0Z： 为型号代码

Note:

Q: Automobile halogen-free product Code

0Z: Product Type Code

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)


说明：

- 1、预热温度 150~200°C，时间 60~120sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
- 3.Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOD-123	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices