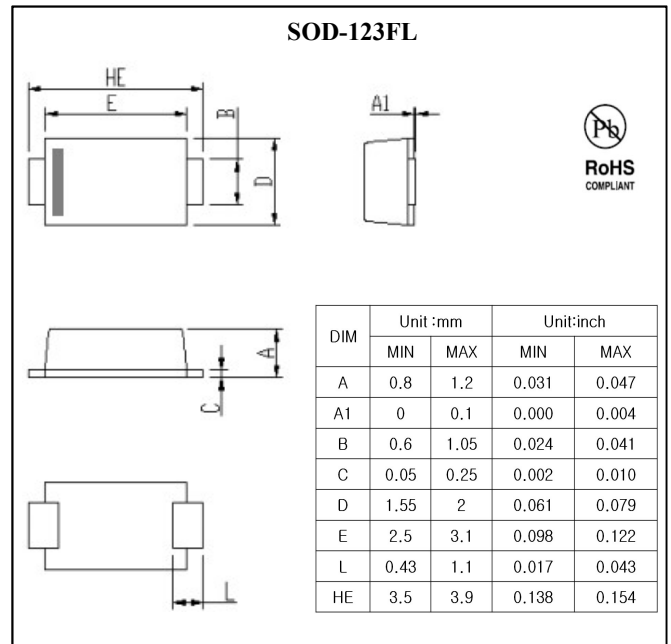
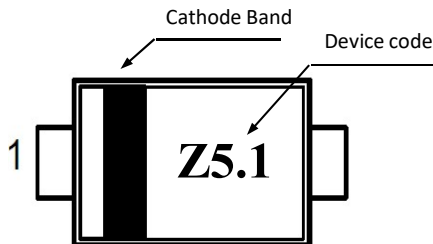


**Glass Passivated Junction Zener Voltage Regulators**  
**1.0Watt Surface Mount Zener Diodes**
**Features**

- 1.0W Rating on FR-4 or FR-5 Board
- Wide Zener Reverse Voltage Range – 5.1V to 200 V
- Package Designed for Optimal Automated Board Assembly
- Small Package Size for High Density Applications
- General Purpose, Medium Current
- Guarding for over voltage protection
- IEC61000-4-2 ESD Air Contact  $\geq \pm 15$  kV
- We declare that the material of product compliance with RoHS requirements
- MSL : Level 1

**Mechanical Data**

- Case : JEDEC SOD-123FL/Mini SMA molded plastic case
- Finish : Corrosion resistant finish, easily solderable
- Terminals : Plated terminals, solderable per MIL-STD-750, Method 2026
- Maximum Case Temperature for Soldering Purposes : 260°C for 10 Seconds
- Polarity : Cathode indicated by polarity band
- Flammability Rating : UL 94 V-0
- Weight : 0.015gram


**Marking**

**Maximum Ratings**

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Parameter	Symbol	Rated Value	Unit	Remark
Steady State Power Dissipation at $T_L=75^\circ\text{C}$	$P_{M(AV)}$	1.0	W	Note 1
Z-current	$I_Z$	PV/VZ	mA	
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method)	IFSM	40	A	Note 2
Junction and Storage Temperature Range	$T_J, T_{STG}$	-50 to +150	°C	

Note 1. 8.0mm<sup>2</sup> (0.013mm thick) land areas

Note 2. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum

**Electrical Characteristics** (Ta=25°C unless otherwise noted)

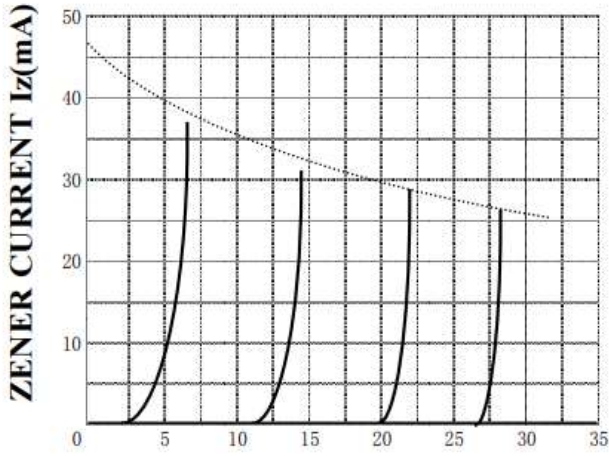
Vz tolerance : ±5%; Tested with pulse tp=40ms: Ta=25°C , V<sub>FMAX</sub>=1.2V @I<sub>F</sub>=200mA ,P=1W

Device	Device Marking	Zener Voltage	Current	Zener Impedance (Note 5)			Leakage Current I <sub>R</sub> @ V <sub>R</sub>		Surge current	Maximum Regulator Current <sup>(2)</sup>
		V <sub>Z</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	I <sub>R</sub> @Ta=25°C	I <sub>ZM</sub> @Ta=50°C
		V	mA	Ω	Ω	mA	uA	Volts	mA	mA
SODZ5.1A-SH	Z5.1	5.1	49.0	7.0	550	1.0	100	1.0	890	178
SODZ5.6A-SH	Z5.6	5.6	45.0	5.0	600	1.0	100	2.0	810	164
SODZ6.2A-SH	Z6.2	6.2	41.0	2.0	700	1.0	100	3.0	730	146
SODZ6.8A-SH	Z6.8	6.8	37.0	4.0	1300	1.0	100	4.0	660	133
SODZ7.5A-SH	Z7.5	7.5	34.0	4.5	1300	0.5	100	5.0	605	121
SODZ8.2A-SH	Z8.2	8.2	31.0	5.5	1300	0.5	100	6.0	550	110
SODZ9.1A-SH	Z9.1	9.1	28.0	6.0	1300	0.5	100	7.0	500	100
SODZ10A-SH	Z10	10	25.0	7.0	1300	0.25	20	7.6	454	91
SODZ11A-SH	Z11	11	23.0	8.0	1300	0.25	20	8.4	414	83
SODZ12A-SH	Z12	12	21.0	9.0	1300	0.25	20	9.1	380	76
SODZ13A-SH	Z13	13	19.0	10	1300	0.25	20	9.9	344	69
SODZ15A-SH	Z15	15	17.0	14	1300	0.25	20	11.4	304	61
SODZ16A-SH	Z16	16	15.5	16	1300	0.25	20	12.2	285	57
SODZ18A-SH	Z18	18	14.0	20	1300	0.25	20	13.7	250	50
SODZ20A-SH	Z20	20	12.5	22	1300	0.25	20	15.2	225	45
SODZ22A-SH	Z22	22	11.5	23	1300	0.25	20	16.7	205	41
SODZ24A-SH	Z24	24	10.5	25	1300	0.25	20	18.2	190	38
SODZ27A-SH	Z27	27	9.5	35	1300	0.25	20	20.6	170	34
SODZ30A-SH	Z30	30	8.5	40	1500	0.25	20	22.8	150	30
SODZ33A-SH	Z33	33	7.5	45	1500	0.25	5.0	25.1	135	27
SODZ36A-SH	Z36	36	7.0	50	1500	0.25	5.0	27.4	125	25
SODZ39A-SH	Z39	39	6.5	60	1500	0.25	5.0	29.7	115	23
SODZ43A-SH	Z43	43	6.0	70	2500	0.25	5.0	32.7	110	22
SODZ47A-SH	Z47	47	5.5	80	2500	0.25	5.0	35.8	95	19
SODZ51A-SH	Z51	51	5.0	95	2500	0.25	5.0	38.8	90	18
SODZ56A-SH	Z56	56	4.5	110	2500	0.25	5.0	42.6	80	16
SODZ62A-SH	Z62	62	4.0	125	2500	0.25	5.0	47.1	70	14
SODZ68A-SH	Z68	68	3.7	150	2500	0.25	5.0	51.7	65	13
SODZ75A-SH	Z75	75	3.3	175	2500	0.25	5.0	56.0	60	12
SODZ82A-SH	Z82	82	3.0	200	3000	0.25	5.0	62.2	55	11
SODZ91A-SH	Z91	91	2.8	250	3000	0.25	5.0	69.2	50	10
SODZ100A-SH	Z100	100	2.5	350	3000	0.25	5.0	76.0	45	9.0
SODZ110A-SH	Z110	110	2.0	550	5000	0.25	5.0	83.0	42	8.0
SODZ120A-SH	Z120	120	1.5	750	5500	0.25	5.0	90.0	38	7.0
SODZ130A-SH	Z130	130	1.0	900	6000	0.25	5.0	98.0	34	6.0
SODZ150A-SH	Z150	150	1.0	1200	6500	0.25	5.0	113	30	6.0
SODZ160A-SH	Z160	160	1.0	1350	7000	0.25	5.0	120	28	6.0
SODZ180A-SH	Z180	180	1.0	1650	8500	0.25	5.0	135	25	5.0
SODZ200A-SH	Z200	200	1.0	1950	10000	0.25	5.0	150	23	4.0

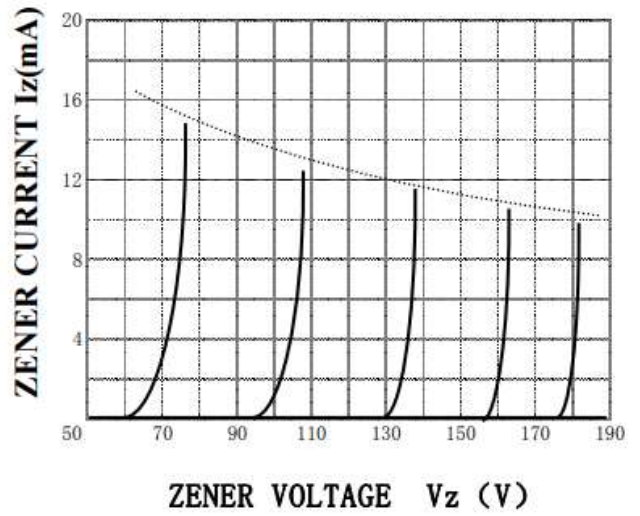


Ratings and Characteristics Curves ( $T_a=25^\circ\text{C}$  unless otherwise noted)

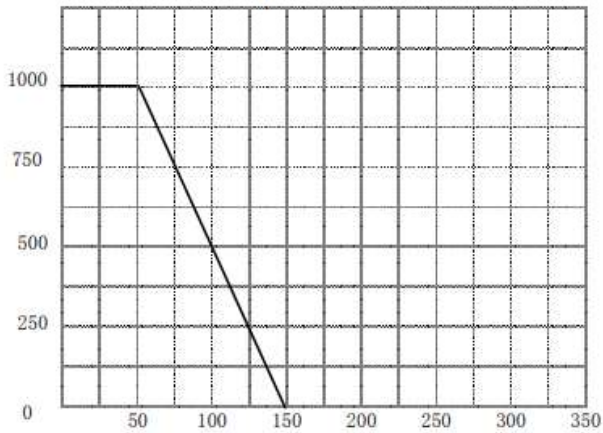
**$V_z - I_z$**



**$V_z - I_z$**



**$P - T_a$**



**AMBIENT TEMPERATURE  $T_a$  (°C)**