






**1.3 W Surface Mount Glass Passivated Zener Diode**

<p><b>DO-214AC (SMA)</b></p> 	<p><b>Voltage</b> 6.2 to 240 V</p>	<p><b>Current</b> 1.3 W</p>	
			
	<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• Low profile package</li> <li>• Ideal for automated placement</li> <li>• Low leakage current</li> <li>• High surge current and zener capability</li> <li>• Low differential resistance</li> <li>• Tolerance series <math>\pm 5\%</math></li> <li>• Low forward voltage drop</li> <li>• Solder dip 260°C, 10s</li> <li>• AEC-Q101 qualified</li> <li>• Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC</li> <li>• Meets MSL level 1, per J-STD-020, LF maximum peak of 260° C</li> </ul>		   <b>RoHS COMPLIANT</b>
	<p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• <b>Case:</b> DO-214AC (SMA). Epoxy meets UL 94V-0 flammability rating.</li> <li>• <b>Polarity:</b> Color band denotes cathode end.</li> <li>• <b>Terminals:</b> Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test.</li> <li>• <b>HE3 suffix</b> for high reliability grade, meets JESD 201 class 2 whisker test.</li> </ul>		
<p><b>TYPICAL APPLICATIONS</b></p> <p>Used for basic regulation functions in most electronic applications, Zener diodes offer a cheaper alternative to IC solutions.</p>			

**Maximum Ratings and Electrical Characteristics at 25 °C**

$P_{tot}$	Power dissipation at $T_{amb} = 25\text{ °C}$ $R_{th\ j-a} = 100\text{ °C/W}$	1.3 W
$P_{tot}$	Power dissipation at $T_{amb} = 25\text{ °C}$ $R_{th\ j-a} = 25\text{ °C/W}$	3.25 W
$T_j$	Operating temperature range	- 65 to + 150 °C
$T_{stg}$	Storage temperature range	- 65 to + 150 °C
$V_F$	Max. forward voltage drop at $I_F = 0.5\text{ A}$	1.0 V
$R_{th\ j-c}$	Typical Thermal Resistance	25 °C/W
$R_{th\ j-a}$	PCB epoxy-glass path 1.5 mm	150 °C/W
	PCB epoxy-glass path 5 x 10 mm	125 °C/W
	Ceramic Plate $Al_2O_3$ ) path 5 x 10 mm	100 °C/W

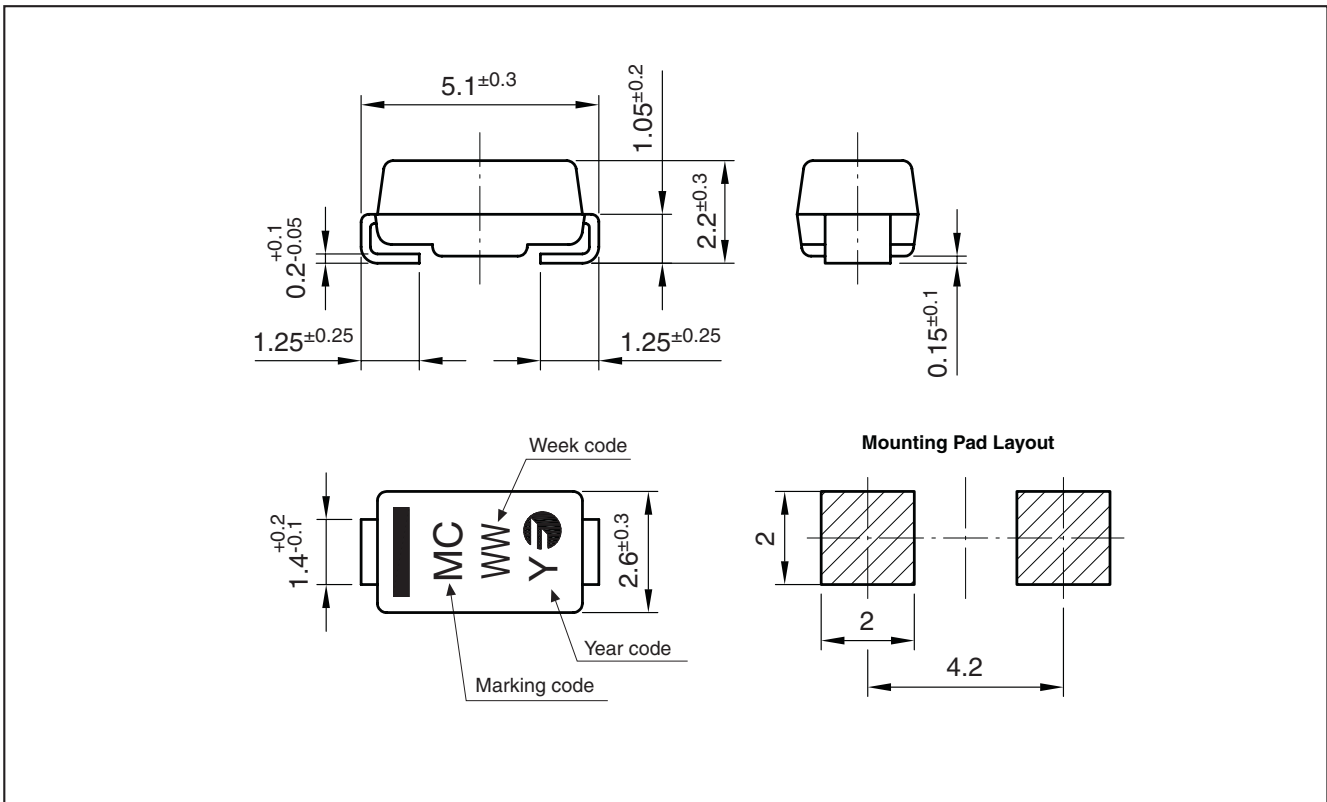
Other voltages upon request

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**Ordering information**

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
Z1SMA51 TRTB	TRTB	13" diameter tape and reel	7,500	0.060
Z1SMA51 TRTS	TRTS	7" diameter tape and reel	1,500	0.060
Z1SMA51 HE3 TRTB	TRTB	13" diameter tape and reel	7,500	0.060

**Package Outline Dimensions: (mm) DO-214AC (SMA)**



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**Ratings and Characteristics (Ta 25 °C unless otherwise noted)**

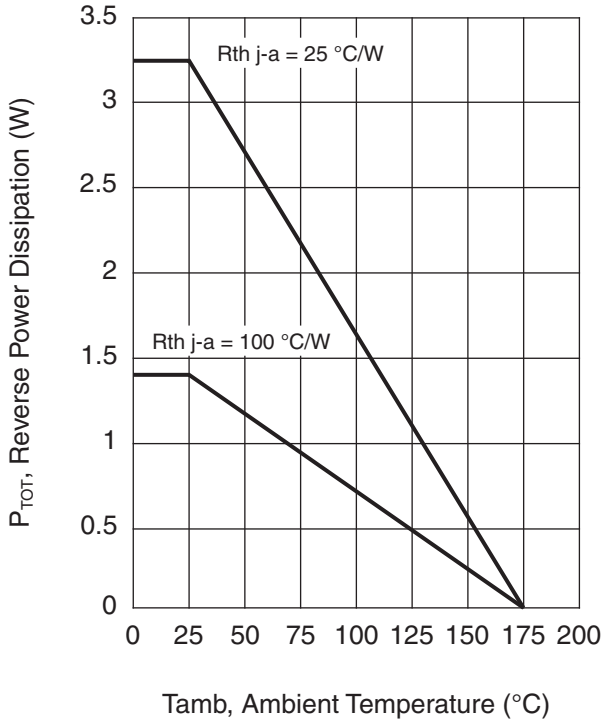
Type	Marking Code	Zener (1) Voltage Range V <sub>Z</sub> at I <sub>ZT</sub>	Maximum Zener Impedance Z <sub>ZT</sub> at I <sub>ZT</sub>	Typical Temperature Coefficient at I <sub>ZT</sub>	Test Current I <sub>ZT</sub>	Max Reverse Leakage Current		Max Regulator Current at 45 °C I <sub>ZM</sub>
		(V)	(Ω)	(% / °C)	(mA)	I <sub>R</sub> (μA)	@ V <sub>R</sub> (V)	(mA)
<b>Z1SMA6V2</b>	EC	5.8-6.6	2	+0.025	100	10	3	161
<b>Z1SMA6V8</b>	EE	6.4-7.2	2.5	+0.035	100	10	4	147
<b>Z1SMA7V5</b>	ED	7.0-7.9	3	+0.035	100	10	5	133
<b>Z1SMA8V2</b>	EF	7.7-8.7	3.5	+0.055	100	10	6	122
<b>Z1SMA9V1</b>	EG	8.5-9.6	4	+0.055	50	10	7	110
<b>Z1SMA10</b>	EH	9.4-10.6	4	+0.070	50	1	7.5	105
<b>Z1SMA11</b>	EK	10.4-11.6	7	+0.075	50	1	8.2	97
<b>Z1SMA12</b>	EL	11.4-12.7	7	+0.075	50	1	9.1	88
<b>Z1SMA13</b>	EM	12.4-14.1	10	+0.075	50	1	10	79
<b>Z1SMA15</b>	EN	13.8-15.6	10	+0.075	50	1	11	71
<b>Z1SMA16</b>	EP	15.3-17.1	15	+0.085	25	1	12	66
<b>Z1SMA18</b>	EQ	16.8-19.1	15	+0.085	25	1	13	62
<b>Z1SMA20</b>	ER	18.8-21.2	15	+0.085	25	1	15	56
<b>Z1SMA22</b>	ES	20.8-23.3	15	+0.085	25	1	16	52
<b>Z1SMA24</b>	ET	22.8-25.6	15	+0.085	25	1	18	47
<b>Z1SMA27</b>	EU	25.1-28.9	15	+0.085	25	1	20	41
<b>Z1SMA30</b>	EV	28-32	15	+0.085	25	1	22	36
<b>Z1SMA33</b>	EW	31-35	15	+0.085	25	1	24	33
<b>Z1SMA36</b>	EX	34-38	40	+0.085	10	1	27	30
<b>Z1SMA39</b>	EY	37-41	40	+0.085	10	1	30	28
<b>Z1SMA43</b>	EZ	40-46	45	+0.095	10	1	33	26
<b>Z1SMA47</b>	FD	44-50	45	+0.095	10	1	36	23
<b>Z1SMA51</b>	FF	48-54	60	+0.095	10	1	39	21
<b>Z1SMA56</b>	FG	52-60	60	+0.095	10	1	43	19
<b>Z1SMA62</b>	FH	58-66	80	+0.105	10	1	47	16
<b>Z1SMA68</b>	FK	64-72	80	+0.105	10	1	51	15
<b>Z1SMA75</b>	FL	70-80	100	+0.105	10	1	56	14
<b>Z1SMA82</b>	FM	77-87	100	+0.105	10	1	62	12
<b>Z1SMA91</b>	FN	85-96	200	+0.110	5	1	68	10
<b>Z1SMA100</b>	FP	94-106	200	+0.110	5	1	75	9.4
<b>Z1SMA110</b>	FQ	104-116	250	+0.110	5	1	82	8.6
<b>Z1SMA120</b>	FR	114-127	250	+0.110	5	1	91	7.8
<b>Z1SMA130</b>	FS	124-141	300	+0.110	5	1	100	7.0
<b>Z1SMA150</b>	FT	138-156	300	+0.110	5	1	110	6.4
<b>Z1SMA160</b>	FU	158-171	350	+0.110	5	1	120	5.8
<b>Z1SMA180</b>	FV	168-191	500	+0.110	5	1	130	5.2
<b>Z1SMA200</b>	FW	188-212	500	+0.110	5	1	150	4.7
<b>Z1SMA220</b>	FE	208-233	2500	+0.110	1	1	160	4.5
<b>Z1SMA240</b>	FZ	228-256	2550	+0.110	1	1	180	4.2

(1) Tested with pulses.  
Pulse test: t<sub>p</sub> ≤ 50 ms; δ < 2%

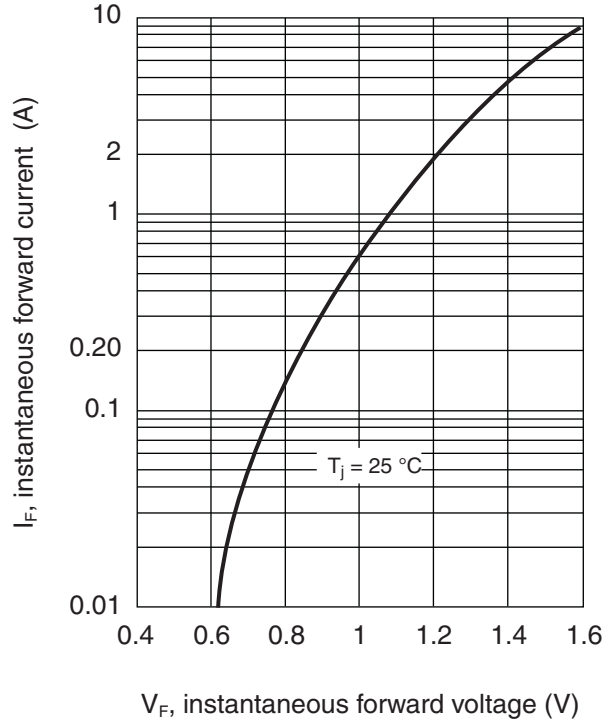
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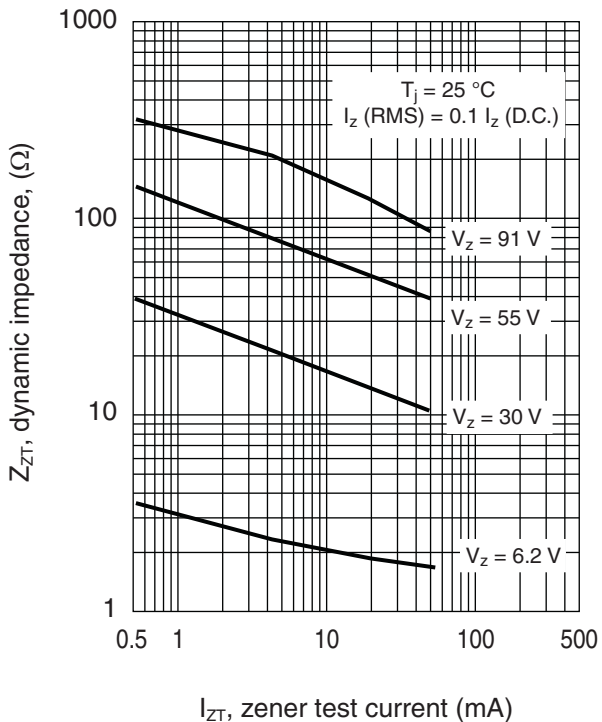
MAXIMUM CONTINUOUS POWER DISSIPATION



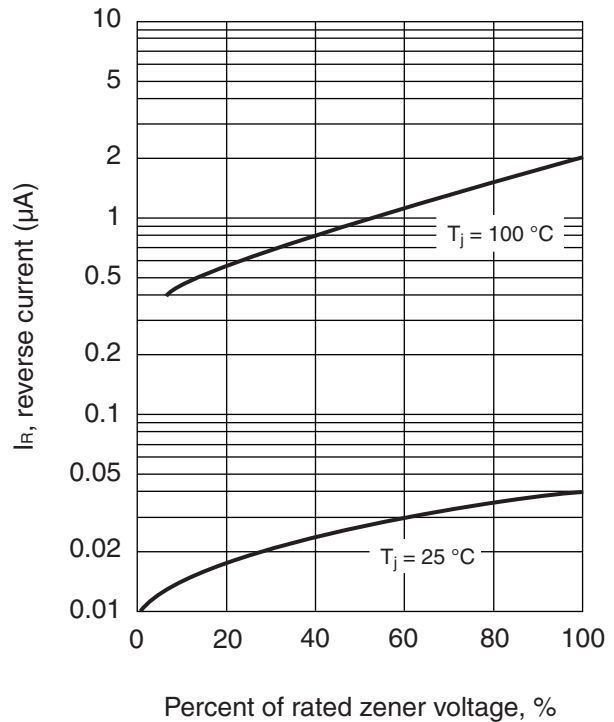
TYPICAL FORWARD CHARACTERISTIC



TYPICAL ZENER IMPEDANCE



TYPICAL REVERSE CHARACTERISTIC



**2.0 W Surface Mount Glass Passivated Zener**

## Disclaimer

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