

## SMB DEVICES (continued)

### Zener Voltage Regulator Diodes

( $T_L = 30^\circ\text{C}$  unless otherwise noted) ( $V_F = 1.5$  Volts Max @  $I_F = 200$  mAdc for all types.)

Device*	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts (Note 1)	Test Current $I_{ZT}$ mA	Max Zener Impedance (Note 2)			Max Reverse Leakage Current		Maximum DC Zener Current $I_{ZM}$ mAdc	Device Marking
			$Z_{ZT} @ I_{ZT}$ Ohms	$Z_{ZK} @ I_{ZK}$ Ohms	$I_{ZK}$ mA	$I_R @ V_R$ $\mu\text{A}$ Volts			
1SMB5913BT3	3.3	113.6	10	500	1	100	1	454	913B
1SMB5914BT3	3.6	104.2	9	500	1	75	1	416	914B
<b>1SMB5915BT3</b>	<b>3.9</b>	<b>96.1</b>	<b>7.5</b>	<b>500</b>	<b>1</b>	<b>25</b>	<b>1</b>	<b>384</b>	<b>915B</b>
<b>1SMB5916BT3</b>	<b>4.3</b>	<b>87.2</b>	<b>6</b>	<b>500</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>348</b>	<b>916B</b>
<b>1SMB5917BT3</b>	<b>4.7</b>	<b>79.8</b>	<b>5</b>	<b>500</b>	<b>1</b>	<b>5</b>	<b>1.5</b>	<b>319</b>	<b>917B</b>
<b>1SMB5918BT3</b>	<b>5.1</b>	<b>73.5</b>	<b>4</b>	<b>350</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>294</b>	<b>918B</b>
<b>1SMB5919BT3</b>	<b>5.6</b>	<b>66.9</b>	<b>2</b>	<b>250</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>267</b>	<b>919B</b>
<b>1SMB5920BT3</b>	<b>6.2</b>	<b>60.5</b>	<b>2</b>	<b>200</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>241</b>	<b>920B</b>
1SMB5921BT3	6.8	55.1	2.5	200	1	5	5.2	220	921B
1SMB5922BT3	7.5	50	3	400	0.5	5	6.8	200	922B
<b>1SMB5923BT3</b>	<b>8.2</b>	<b>45.7</b>	<b>3.5</b>	<b>400</b>	<b>0.5</b>	<b>5</b>	<b>6.5</b>	<b>182</b>	<b>923B</b>
1SMB5924BT3	9.1	41.2	4	500	0.5	5	7	164	924B
<b>1SMB5925BT3</b>	<b>10</b>	<b>37.5</b>	<b>4.5</b>	<b>500</b>	<b>0.25</b>	<b>5</b>	<b>8</b>	<b>150</b>	<b>925B</b>
<b>1SMB5926BT3</b>	<b>11</b>	<b>34.1</b>	<b>5.5</b>	<b>550</b>	<b>0.25</b>	<b>1</b>	<b>8.4</b>	<b>136</b>	<b>926B</b>
<b>1SMB5927BT3</b>	<b>12</b>	<b>31.2</b>	<b>6.5</b>	<b>550</b>	<b>0.25</b>	<b>1</b>	<b>9.1</b>	<b>125</b>	<b>927B</b>
1SMB5928BT3	13	28.8	7	550	0.25	1	9.9	115	928B
<b>1SMB5929BT3</b>	<b>15</b>	<b>25</b>	<b>9</b>	<b>600</b>	<b>0.25</b>	<b>1</b>	<b>11.4</b>	<b>100</b>	<b>929B</b>
1SMB5930BT3	16	23.4	10	600	0.25	1	12.2	93	930B
<b>1SMB5931BT3</b>	<b>18</b>	<b>20.8</b>	<b>12</b>	<b>650</b>	<b>0.25</b>	<b>1</b>	<b>13.7</b>	<b>83</b>	<b>931B</b>
1SMB5932BT3	20	18.7	14	650	0.25	1	15.2	75	932B
1SMB5933BT3	22	17	17.5	650	0.25	1	16.7	68	933B
<b>1SMB5934BT3</b>	<b>24</b>	<b>15.6</b>	<b>19</b>	<b>700</b>	<b>0.25</b>	<b>1</b>	<b>18.2</b>	<b>62</b>	<b>934B</b>
<b>1SMB5935BT3</b>	<b>27</b>	<b>13.9</b>	<b>23</b>	<b>700</b>	<b>0.25</b>	<b>1</b>	<b>20.6</b>	<b>55</b>	<b>935B</b>
<b>1SMB5936BT3</b>	<b>30</b>	<b>12.5</b>	<b>26</b>	<b>750</b>	<b>0.25</b>	<b>1</b>	<b>22.8</b>	<b>50</b>	<b>936B</b>
1SMB5937BT3	33	11.4	33	800	0.25	1	25.1	45	937B
<b>1SMB5938BT3</b>	<b>36</b>	<b>10.4</b>	<b>38</b>	<b>850</b>	<b>0.25</b>	<b>1</b>	<b>27.4</b>	<b>41</b>	<b>938B</b>
1SMB5939BT3	39	9.6	45	900	0.25	1	29.7	38	939B
1SMB5940BT3	43	8.7	53	950	0.25	1	32.7	34	940B
1SMB5941BT3	47	8	67	1000	0.25	1	35.8	31	941B
1SMB5942BT3	51	7.3	70	1100	0.25	1	38.8	29	942B
1SMB5943BT3	56	6.7	86	1300	0.25	1	42.6	26	943B
1SMB5944BT3	62	6	100	1500	0.25	1	47.1	24	944B
1SMB5945BT3	68	5.5	120	1700	0.25	1	51.7	22	945B
1SMB5946BT3	75	5	140	2000	0.25	1	56	20	946B
1SMB5947BT3	82	4.6	160	2500	0.25	1	62.2	18	947B
1SMB5948BT3	91	4.1	200	3000	0.25	1	69.2	16	948B
<b>1SMB5949BT3</b>	<b>100</b>	<b>3.7</b>	<b>250</b>	<b>3100</b>	<b>0.25</b>	<b>1</b>	<b>76</b>	<b>15</b>	<b>949B</b>
1SMB5950BT3	110	3.4	300	4000	0.25	1	83.6	13	950B
1SMB5951BT3	120	3.1	380	4500	0.25	1	91.2	12	951B
1SMB5952BT3	130	2.9	450	5000	0.25	1	98.8	11	952B
1SMB5953BT3	150	2.5	600	6000	0.25	1	114	10	953B
1SMB5954BT3	160	2.3	700	6500	0.25	1	121.6	9	954B
1SMB5955BT3	180	2.1	900	7000	0.25	1	136.8	8	955B
1SMB5956BT3	200	1.9	1200	8000	0.25	1	152	7	956B

\*TOLERANCE AND VOLTAGE DESIGNATION Tolerance designation — The type numbers listed indicate a tolerance of  $\pm 5\%$ .

See Packaging Information under Technical Data Section for reel size, quantity and ordering information.

See Surface Mount Notes in SMB section.

Devices listed in bold, italic are Motorola preferred devices.

## Notes — Surface Mount Chart

1. *Zener Voltage* is the key parameter for each device type. It is specified at a particular test current applied at either thermal equilibrium (T.E.) or pulse test condition. The voltage tolerance for the device types listed is, in general  $\pm 5\%$ ; however, for some series, the voltage tolerance varies from device type to device type over a range of  $\pm(5$  to  $8.5)\%$ . Consult the complete data sheet to determine the exact test conditions and minimum/maximum limits for the zener voltage.

*Power Ratings* represent the capability of the case size listed as supplied by Motorola. These ratings may be higher than the same device types supplied by other manufacturers.

### $V_Z$ TEST CONDITIONS AND TOLERANCES

2. *BZX84C2V4L-C24LT1*  $I_{ZT} = 5$  mA (pulse).  
*BZX84C27L-C75LT1*  $I_{ZT} = 2$  mA (pulse).  
Tolerance is  $\pm(5$  to  $8.5)\%$  depending on type number. Each device type also has other  $V_Z$  min/max limits at two other  $I_{ZT}$  pulse current values.
3. *MMBZ5221BL-42BLT1*  $I_{ZT} = 20$  mA (pulse).  
*MMBZ5243BL-70BLT1*  $I_{ZT}$  @ approximately 125 mW point (pulse).  
BL suffix =  $\pm 5\%$ .

4. *MMSZ2V4-24T1*  $I_{ZT} = 5$  mA (pulse).  
*MMSZ27-56T1*  $I_{ZT} = 2$  mA (pulse).

Tolerance is  $\pm(5$  to  $8.5)\%$  depending on type number. Each device type also has other  $V_Z$  min/max limits at two other  $I_{ZT}$  pulse current values.

5. *MMSZ4678T1 Series*  $I_{ZT} = 50$   $\mu$ A (T.E.).

No suffix =  $\pm 5\%$ .

6. *MMSZ5221B-42BT1*  $I_{ZT} = 20$  mA (T.E.).

*MMSZ5243B-63BT1*  $I_{ZT}$  @ approximately 125 mW point (T.E.).

A suffix =  $\pm 10\%$ .

B suffix =  $\pm 5\%$ .

7. *1SMB5913BT3 Series*

$I_{ZT}$  @ approximately 375 mW point (T.E.).

BT3 suffix =  $\pm 5\%$ .

T3 suffix designates tape and reel of 2500 units.