

**SOT-23 Formed SMD Package**

**CMBZ52XX series**

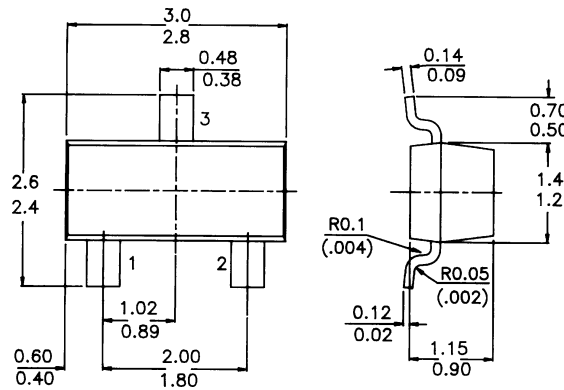
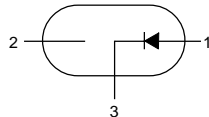
**SILICON PLANAR ZENER DIODES**

General purpose zener diodes

**PACKAGE OUTLINE DETAILS**  
ALL DIMENSIONS IN mm

**Pin configuration**

- 1 = ANODE
- 2 = NC
- 3 = CATHODE



**Marking**

<i>CMBZ5230B = 8E</i>	<i>CMBZ5239B = 8P</i>	<i>CMBZ5248B = 8Y</i>	<i>CMBZ5257B = 81H</i>
<i>31B = 8F</i>	<i>40B = 8Q</i>	<i>49B = 8Z</i>	
<i>32B = 8G</i>	<i>41B = 8R</i>	<i>50B = 81A</i>	
<i>33B = 8H</i>	<i>42B = 8S</i>	<i>51B = 81B</i>	
<i>34B = 8J</i>	<i>43B = 8T</i>	<i>52B = 81C</i>	
<i>35B = 8K</i>	<i>44B = 8U</i>	<i>53B = 81D</i>	
<i>36B = 8L</i>	<i>45B = 8V</i>	<i>54B = 81E</i>	
<i>37B = 8M</i>	<i>46B = 8W</i>	<i>55B = 81F</i>	
<i>38B = 8N</i>	<i>47B = 8X</i>	<i>56B = 81G</i>	

**ABSOLUTE MAXIMUM RATINGS**

Working voltage range	$V_Z$	nom.	4.7 to 33 V
Working voltage tolerance			±5 %
Total power dissipation up to $T_{amb} = 25\text{ °C}$	$P_{tot}$	max.	300 mW
Junction temperature	$T_j$	max.	150 °C

## CMBZ52XX series

### **RATINGS** (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

#### Limiting values

Total power dissipation up to $T_{amb} = 25^\circ\text{C}^*$	$P_{tot}$	<i>max.</i>	<i>300 mW</i>
Total power dissipation up to $T_{amb} = 25^\circ\text{C}^{**}$	$P_{tot}$	<i>max.</i>	<i>225 mW</i>
Storage temperature	$T_{stg}$		<i>-55 to -150 °C</i>
Junction temperature	$T_j$	<i>max.</i>	<i>150 °C</i>

### **THERMAL RESISTANCE**

From junction to ambient	$R_{th\ j-a}$	<i>417 °C/W</i>
From junction to ambient	$R_{th\ j-a}$	<i>556 °C/W</i>

### **CHARACTERISTICS**

$T_j = 25^\circ\text{C}$  unless otherwise specified

$V_F = 0.9\text{V}$  Max. @  $I_F = 10\text{ mA}$

Device	Zener Voltage $V_Z (\pm 5\%)$ Nominal	Test Current $I_{ZT}$ mA	$Z_{ZK}$ $I_Z=0.25\text{mA}$ ohm max	$Z_{ZT}$ $I_Z = I_{ZT}$ @10% Mod ohm max	Max $I_R$ uA max	@ $V_R$ (V)
CMBZ-5230B	4.7	20	1900	19	5.0	2.0
CMBZ-5231B	5.1	20	1600	17	5.0	2.0
CMBZ-5232B	5.6	20	1600	11	5.0	3.0
CMBZ-5233B	6.0	20	1600	7.0	5.0	3.5
CMBZ-5234B	6.2	20	1000	7.0	5.0	4.0
CMBZ-5235B	6.8	20	750	5.0	3.0	5.0
CMBZ-5236B	7.5	20	500	6.0	3.0	6.0
CMBZ-5237B	8.2	20	500	8.0	3.0	6.5
CMBZ-5238B	8.7	20	600	8.0	3.0	6.5
CMBZ-5239B	9.1	20	600	10	3.0	7.0
CMBZ-5240B	10	20	600	17	3.0	8.0
CMBZ-5241B	11	20	600	22	2.0	8.4
CMBZ-5242B	12	20	600	30	1.0	9.1
CMBZ-5243B	13	9.5	600	13	0.5	9.9
CMBZ-5244B	14	9.0	600	15	0.1	10
CMBZ-5245B	15	8.5	600	16	0.1	11
CMBZ-5246B	16	7.8	600	17	0.1	12
CMBZ-5247B	17	7.4	600	19	0.1	13
CMBZ-5248B	18	7.0	600	21	0.1	14
CMBZ-5249B	19	6.6	600	23	0.1	14
CMBZ-5250B	20	6.2	600	25	0.1	15
CMBZ-5251B	22	5.6	600	29	0.1	17

\* Device mounted on a ceramic alumina of 8 mm × 10 mm × 0.7 mm

\*\* Device mounted on an FR5 printed circuit board

## CMBZ52XX series

Device	Zener Voltage $V_Z (\pm 5\%)$ Nominal	Test Current $I_{ZT}$ mA	$Z_{ZK}$ $I_Z=0.25mA$ ohm max	$Z_{ZT}$ $I_Z = I_{ZT}$ @10% Mod ohm max	Max $I_R$ uA max	@ $V_R$ (V)
<i>CMBZ-5252B</i>	<i>24</i>	<i>5.2</i>	<i>600</i>	<i>33</i>	<i>0.1</i>	<i>18</i>
<i>CMBZ-5253B</i>	<i>25</i>	<i>5.0</i>	<i>600</i>	<i>35</i>	<i>0.1</i>	<i>19</i>
<i>CMBZ-5254B</i>	<i>27</i>	<i>4.6</i>	<i>600</i>	<i>41</i>	<i>0.1</i>	<i>21</i>
<i>CMBZ-5255B</i>	<i>28</i>	<i>4.5</i>	<i>600</i>	<i>44</i>	<i>0.1</i>	<i>21</i>
<i>CMBZ-5256B</i>	<i>30</i>	<i>4.2</i>	<i>600</i>	<i>49</i>	<i>0.1</i>	<i>23</i>
<i>CMBZ-5257B</i>	<i>33</i>	<i>3.8</i>	<i>700</i>	<i>58</i>	<i>0.1</i>	<i>25</i>

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