

# ACZRC5340B-G Thru. ACZRC5388B-G

Voltage: 6.0 to 200 Volts

Power: 5 Watts RoHS Device

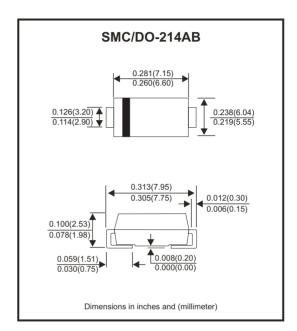


#### **Features**

- Glass passivated chip.
- Low leakage.
- Built-in strain relief.
- Low inductance.
- High peak reverse power dissipation.
- For use in stabilizing and clipping circuits with high power.
- Comply with AEC-Q101

#### **Mechanical data**

- Case: DO-214AB(SMC), Molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Solderable per MIL-STD-750 ,method 2026 guranteed.
- Polarity: Color band denotes cathode end.
- Mounting position: Any.
- Weight: 0.230 gram (approx.)



### Circuit diagram



### Maximum Ratings (TA=25°C unless otherwise noted)

| Parameter                                     | Symbol | Value       | Units |
|---|--------|-------------|-------|
| DC power dissipation at T∟ = 75°C (Note1)     | Po     | 5           | W     |
| Maximun forward voltage at I <sub>F</sub> =1A | VF     | 1.2         | V     |
| Junction temperature range                    | TJ     | -55 to +150 | °C    |
| Storage temperature range                     | Тѕтс   | -55 to +150 | °C    |

#### Note:

(1) Mounted on 5.0mm<sup>2</sup> (1oz thick) land areas, lead temperature at TL=75°C.



#### RATING AND CHARACTERISTIC CURVES (ACZRC5340B-G Thru. ACZRC5388B-G)

Fig.1 - Power temperature derating current

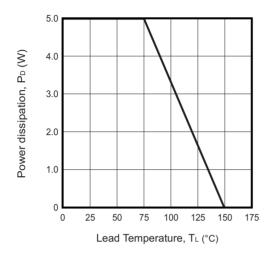


Fig.2 - Temperature coefficients v.s. Zener voltage

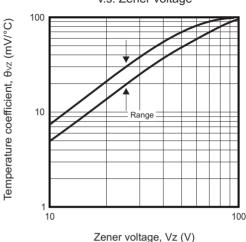


Fig.3 - Typical thermal resistance v.s. lead length

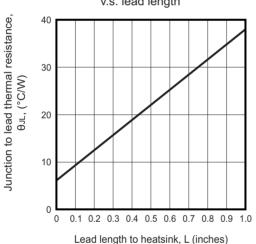


Fig.4 - Maximum surge power

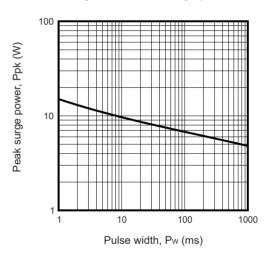
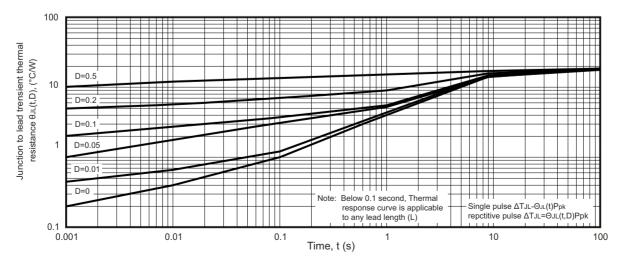


Fig.5- Typical thermal response L, lead length=3/8 inch



Company reserves the right to improve product design, functions and reliability without notice.



## Electrical Characteristics (at TA=25°C unless otherwise specified)

| Nominal Zener Voltage Part Number |          |      |                           | laximum<br>r Impedance | )    | Maximum Reverse<br>Leakage Current |              | Current | Marking<br>Code |
|-----------------------------------|----------|------|---------------------------|------------------------|------|------------------------------------|--------------|---------|-----------------|
|                                   | Vz @ Izτ | lzт  | <b>Z</b> zт @ <b>I</b> zт | Zzk @ Izk              | Izĸ  | lr (                               | ② <b>V</b> R | Izм     |                 |
|                                   | (V)      | (mA) | (Ohm)                     | (Ohm)                  | (mA) | (uA)                               | (V)          | (mA)    |                 |
| ACZRC5340B-G                      | 6.0      | 200  | 1.0                       | 300                    | 1    | 1.0                                | 3.0          | 790.0   | 340B            |
| ACZRC5341B-G                      | 6.2      | 200  | 1.0                       | 200                    | 1    | 1.0                                | 3.0          | 765.0   | 341B            |
| ACZRC5342B-G                      | 6.8      | 175  | 1.0                       | 200                    | 1    | 10.0                               | 5.2          | 700.0   | 342B            |
| ACZRC5343B-G                      | 7.5      | 175  | 1.5                       | 200                    | 1    | 10.0                               | 5.7          | 630.0   | 343B            |
| ACZRC5344B-G                      | 8.2      | 150  | 1.5                       | 200                    | 1    | 10.0                               | 6.2          | 580.0   | 344B            |
| ACZRC5345B-G                      | 8.7      | 150  | 2.0                       | 200                    | 1    | 10.0                               | 6.6          | 545.0   | 345B            |
| ACZRC5346B-G                      | 9.1      | 150  | 2.0                       | 150                    | 1    | 7.5                                | 6.9          | 520.0   | 346B            |
| ACZRC5347B-G                      | 10.0     | 125  | 2.0                       | 125                    | 1    | 5.0                                | 7.6          | 475.0   | 347B            |
| ACZRC5348B-G                      | 11.0     | 125  | 2.5                       | 125                    | 1    | 5.0                                | 8.4          | 430.0   | 348B            |
| ACZRC5349B-G                      | 12.0     | 100  | 2.5                       | 125                    | 1    | 2.0                                | 9.1          | 395.0   | 349B            |
| ACZRC5350B-G                      | 13.0     | 100  | 2.5                       | 100                    | 1    | 1.0                                | 9.9          | 365.0   | 350B            |
| ACZRC5351B-G                      | 14.0     | 100  | 2.5                       | 75                     | 1    | 1.0                                | 10.6         | 340.0   | 351B            |
| ACZRC5352B-G                      | 15.0     | 75   | 2.5                       | 75                     | 1    | 1.0                                | 11.5         | 315.0   | 352B            |
| ACZRC5353B-G                      | 16.0     | 75   | 2.5                       | 75                     | 1    | 1.0                                | 12.2         | 295.0   | 353B            |
| ACZRC5354B-G                      | 17.0     | 70   | 2.5                       | 75                     | 1    | 0.5                                | 12.9         | 280.0   | 354B            |
| ACZRC5355B-G                      | 18.0     | 65   | 2.5                       | 75                     | 1    | 0.5                                | 13.7         | 265.0   | 355B            |
| ACZRC5356B-G                      | 19.0     | 65   | 3.0                       | 75                     | 1    | 0.5                                | 14.4         | 250.0   | 356B            |
| ACZRC5357B-G                      | 20.0     | 65   | 3.0                       | 75                     | 1    | 0.5                                | 15.2         | 237.0   | 357B            |
| ACZRC5358B-G                      | 22.0     | 50   | 3.5                       | 75                     | 1    | 0.5                                | 16.7         | 216.0   | 358B            |
| ACZRC5359B-G                      | 24.0     | 50   | 3.5                       | 100                    | 1    | 0.5                                | 18.2         | 198.0   | 359B            |
| ACZRC5360B-G                      | 25.0     | 50   | 4.0                       | 110                    | 1    | 0.5                                | 19.0         | 190.0   | 360B            |
| ACZRC5361B-G                      | 27.0     | 50   | 5.0                       | 120                    | 1    | 0.5                                | 20.6         | 176.0   | 361B            |
| ACZRC5362B-G                      | 28.0     | 50   | 6.0                       | 130                    | 1    | 0.5                                | 21.2         | 170.0   | 362B            |
| ACZRC5363B-G                      | 30.0     | 40   | 8.0                       | 140                    | 1    | 0.5                                | 22.8         | 158.0   | 363B            |
| ACZRC5364B-G                      | 33.0     | 40   | 10.0                      | 150                    | 1    | 0.5                                | 25.1         | 144.0   | 364B            |
| ACZRC5365B-G                      | 36.0     | 30   | 11.0                      | 160                    | 1    | 0.5                                | 27.4         | 132.0   | 365B            |
| ACZRC5366B-G                      | 39.0     | 30   | 14.0                      | 170                    | 1    | 0.5                                | 29.7         | 122.0   | 366B            |
| ACZRC5367B-G                      | 43.0     | 30   | 20.0                      | 190                    | 1    | 0.5                                | 32.7         | 110.0   | 367B            |
| ACZRC5368B-G                      | 47.0     | 25   | 25.0                      | 210                    | 1    | 0.5                                | 35.8         | 100.0   | 368B            |
| ACZRC5369B-G                      | 51.0     | 25   | 27.0                      | 230                    | 1    | 0.5                                | 38.8         | 93.0    | 369B            |
| ACZRC5370B-G                      | 56.0     | 20   | 35.0                      | 280                    | 1    | 0.5                                | 42.6         | 86.0    | 370B            |
| ACZRC5371B-G                      | 60.0     | 20   | 40.0                      | 350                    | 1    | 0.5                                | 45.5         | 79.0    | 371B            |
| ACZRC5372B-G                      | 62.0     | 20   | 42.0                      | 400                    | 1    | 0.5                                | 47.1         | 76.0    | 372B            |
| ACZRC5373B-G                      | 68.0     | 20   | 44.0                      | 500                    | 1    | 0.5                                | 51.7         | 70.0    | 373B            |
| ACZRC5374B-G                      | 75.0     | 20   | 45.0                      | 620                    | 1    | 0.5                                | 56.0         | 63.0    | 374B            |
| ACZRC5375B-G                      | 82.0     | 15   | 65.0                      | 720                    | 1    | 0.5                                | 62.2         | 58.0    | 375B            |
| ACZRC5376B-G                      | 87.0     | 15   | 75.0                      | 760                    | 1    | 0.5                                | 66.0         | 54.5    | 376B            |
| ACZRC5377B-G                      | 91.0     | 15   | 75.0                      | 760                    | 1    | 0.5                                | 69.2         | 52.5    | 377B            |

#### Notes:

- (1) The type number listed have a standard tolerance on th nominal zener voltage of ± 5%.
- (2) The reverse surge current is a non-repetitive,8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method.

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## Electrical Characteristics (at TA=25°C unless otherwise specified)

| Part Number  | Nomir<br>Zener Vo |      | Maximum<br>Zener Impedance |                           |      | n Reverse<br>e Current | Maximum<br>DC Zener<br>Current | Marking<br>Code |      |
|--------------|-------------------|------|----------------------------|---------------------------|------|------------------------|--------------------------------|-----------------|------|
|              | Vz @ Izт          | lzт  | <b>Z</b> zт @ <b>I</b> zт  | <b>Z</b> zк @ <b>I</b> zк | Izĸ  | lr (                   | <b>0</b> ) <b>V</b> R          | Izм             |      |
|              | (V)               | (mA) | (Ohm)                      | (Ohm)                     | (mA) | (uA)                   | (V)                            | (mA)            |      |
| ACZRC5378B-G | 100.0             | 12   | 90.0                       | 800                       | 1    | 0.5                    | 76.0                           | 47.5            | 378B |
| ACZRC5379B-G | 110.0             | 12   | 125.0                      | 1000                      | 1    | 0.5                    | 83.6                           | 43.0            | 379B |
| ACZRC5380B-G | 120.0             | 10   | 170.0                      | 1150                      | 1    | 0.5                    | 91.2                           | 39.5            | 380B |
| ACZRC5381B-G | 130.0             | 10   | 190.0                      | 1250                      | 1    | 0.5                    | 98.8                           | 36.6            | 381B |
| ACZRC5382B-G | 140.0             | 8    | 230.0                      | 1500                      | 1    | 0.5                    | 106.0                          | 34.0            | 382B |
| ACZRC5383B-G | 150.0             | 8    | 330.0                      | 1500                      | 1    | 0.5                    | 114.0                          | 31.6            | 383B |
| ACZRC5384B-G | 160.0             | 8    | 350.0                      | 1650                      | 1    | 0.5                    | 122.0                          | 29.4            | 384B |
| ACZRC5385B-G | 170.0             | 8    | 380.0                      | 1750                      | 1    | 0.5                    | 129.0                          | 28.0            | 385B |
| ACZRC5386B-G | 180.0             | 5    | 430.0                      | 1750                      | 1    | 0.5                    | 137.0                          | 26.4            | 386B |
| ACZRC5387B-G | 190.0             | 5    | 450.0                      | 1850                      | 1    | 0.5                    | 144.0                          | 25.0            | 387B |
| ACZRC5388B-G | 200.0             | 5    | 480.0                      | 1850                      | 1    | 0.5                    | 152.0                          | 23.6            | 388B |

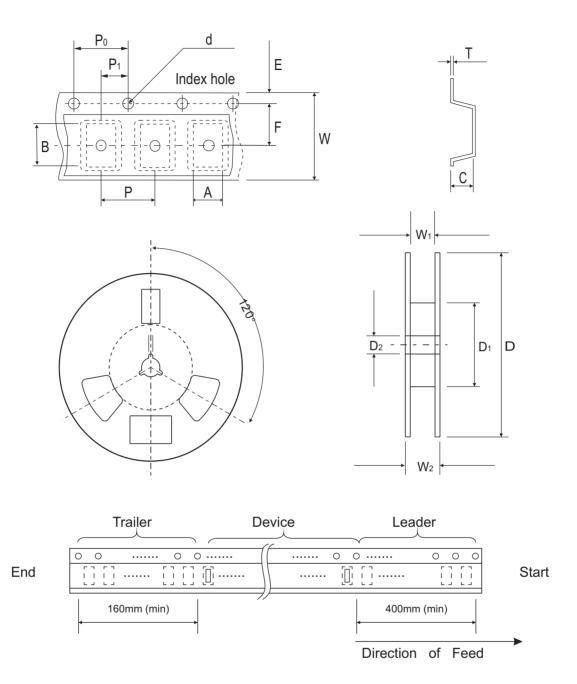
#### Notes:

<sup>(1)</sup> The type number listed have a standard tolerance on th nominal zener voltage of  $\pm$  5%.

<sup>(2)</sup> The reverse surge current is a non-repetitive,8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method.



## **Reel Taping Specification**



|                   | SYMBOL | Α | В          | С | d             | Т            | D      | D <sub>1</sub> | D <sub>2</sub>                      |
|-------------------|--------|---|------------|---|---------------|--------------|--------|----------------|-------------------------------------|
| DO-214AB<br>(SMC) | (mm)   |   | Con Note 4 |   |               | 0.40 (Max.)  | 330.00 | 50.00 (Min.)   | 13.00 <sup>+ 0.50</sup><br>- 0.20   |
| , ,               | (inch) |   | See Note 1 |   | 0.061 ± 0.002 | 0.016 (Max.) | 13.000 | 1.969 (Min.)   | 0.512 <sup>+</sup> 0.020<br>- 0.008 |

|                   | SYMBOL | E             | F             | Р             | P <sub>0</sub> | P <sub>1</sub> | W             | <b>W</b> 1                          | W <sub>2</sub> |
|-------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|-------------------------------------|----------------|
| DO-214AB<br>(SMC) | (mm)   | 1.75 ± 0.10   | 7.50 ± 0.05   | 8.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.05    | 16.00 ± 0.10  | 16.40 <sup>+</sup> 2.00<br>- 0.00   | 22.40 (Max.)   |
| ` ,               | (inch) | 0.069 ± 0.004 | 0.295 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.002  | 0.630 ± 0.004 | 0.646 <sup>+</sup> 0.079<br>- 0.000 | 0.882 (Max.)   |

Notes: 1. A, B, and C the clearance between the component and the cavity must be within 0.5 mm max. for 8 mm tape and 12 mm tape, 1.0 mm max. for 16mm tape and 24 mm tape.

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## **Marking Code**

| Part Number                               | Marking Code |
|---|--------------|
| ACZRC5340B-G Thru.<br>ACZRC5388B-G Series | xxxx         |

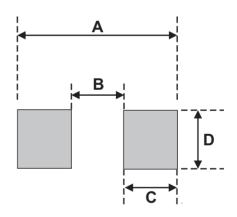


3. XXXX: Marking code (see Page.3~4)

4. : Cathod Band

## **Suggested PAD Layout**

| SIZE | DO-214AB(SMC) |           |  |  |  |
|------|---------------|-----------|--|--|--|
| OIZL | (mm)          | (inch)    |  |  |  |
| Α    | 8.13          | 0.320     |  |  |  |
| В    | 4.69 MAX      | 0.185 MAX |  |  |  |
| С    | 1.52 MIN      | 0.060 MIN |  |  |  |
| D    | 3.20 MIN      | 0.126 MIN |  |  |  |



## **Standard Packaging**

|                   | REEL            | PACK                |
|-------------------|-----------------|---------------------|
| Case Type         | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DO-214AB<br>(SMC) | 3,000           | 13                  |