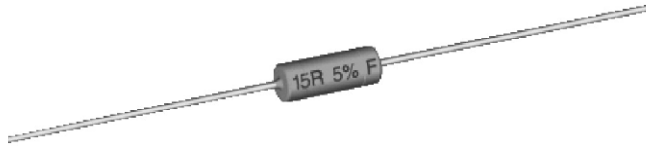


## Axial Cemented, Fusible, Wirewound Resistors



### FEATURES

- Can operate as both a normal resistor and as a fuse
- Fuses when overloaded by more than 100 times the rated power
- Ceramic core
- Non flammable cement coating
- Mainly designed to customer requirements
- Pure tin plating provides compatibility with lead (Pb)-free and lead containing soldering processes
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | HISTORICAL MODEL | POWER RATING<br>$P_{40^\circ\text{C}}$<br>W (MAX.) | TOLERANCE STANDARD<br>(MAX.)<br>$\pm$ % | RESISTANCE RANGE <sup>(1)</sup><br>NOMINAL<br>(TYP.)<br>$\Omega$ | TEMP. COEF.<br>(TYP.)<br>ppm/ $^\circ\text{C}$ | MAX. PEAK ENERGY <sup>(1)</sup><br>Ws (MAX.) | MAX. PEAK POWER <sup>(2)</sup><br>W (MAX.) | PERMISSIBLE $I^2 \times T$ VALUE <sup>(3)</sup><br>AT 40 $^\circ\text{C}$<br>$\text{A}^2\text{s}$ (MIN.) | FUSING $I^2 \times T$ VALUE <sup>(3)</sup><br>AT 40 $^\circ\text{C}$<br>$\text{A}^2\text{s}$ (MIN.) |
|--------------|------------------|--|---|--|--|--|--|--|---|
| Z3020414     | Z302 BV 20327    | 3  | 5, 10                                   | 15   | 100 to 180                                     | 1.07   | 1875                                       | 0.07   | 0.27  |

#### Notes

- <sup>(1)</sup> Ambient temperature = 23  $^\circ\text{C}$   
<sup>(2)</sup> Ambient temperature = 40  $^\circ\text{C}$   
<sup>(3)</sup> Ambient temperature = 100  $^\circ\text{C}$

### CHARACTERISTICS OF FUSIBLE RESISTORS

Fusible resistors are capable of acting as both a regular resistor and as a fuse when abnormal current comes in. Since the two functions are performed by only one component the cost is lower.

The Z302 BV 20327 fuses when overloaded at more than 100 times the rated power. In line-powered devices, these fusible resistors can be used to act as a fuse when malfunction occurs and line voltage drops across the resistor.

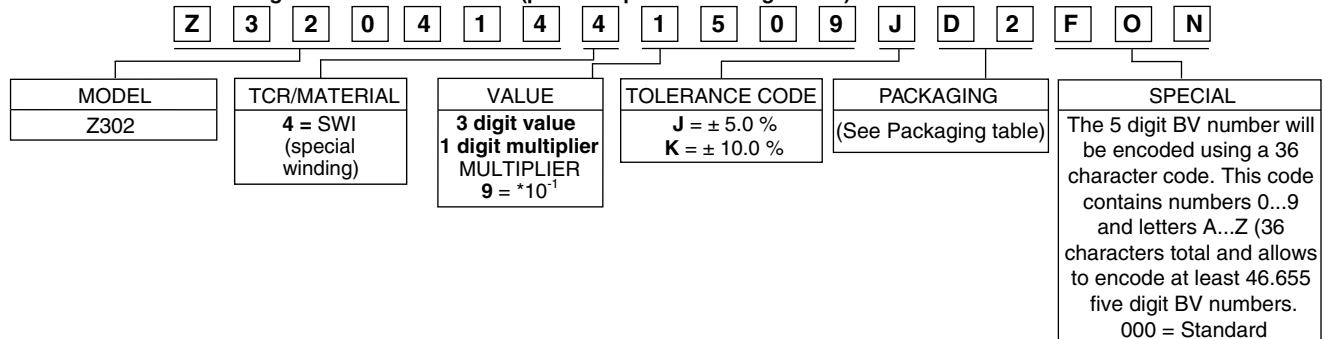
To prevent flames or explosion when fusing, the device has an inflammable construction with high dielectric strength. After fusing the resistance value will be more than 100 k $\Omega$  to realize sufficient circuit break. The components are mainly designed specifically to customer requirements.

### APPLICATIONS FOR FUSIBLE RESISTORS

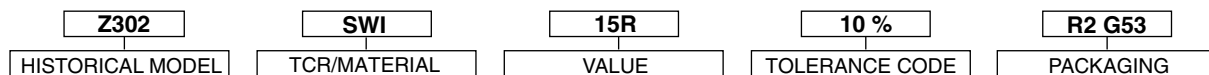
- Power supplies
- Energy saving lamps
- Battery charges

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: Z32041441509JD2FON (preferred part numbering format)

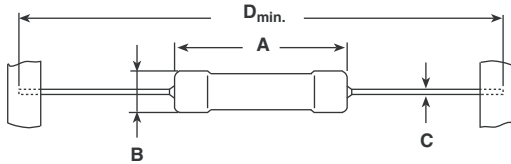


Historical Part Number Example: Z302 SWI 15R 10% R2 G53 (will continue to be accepted)



**PACKAGING TABLE**

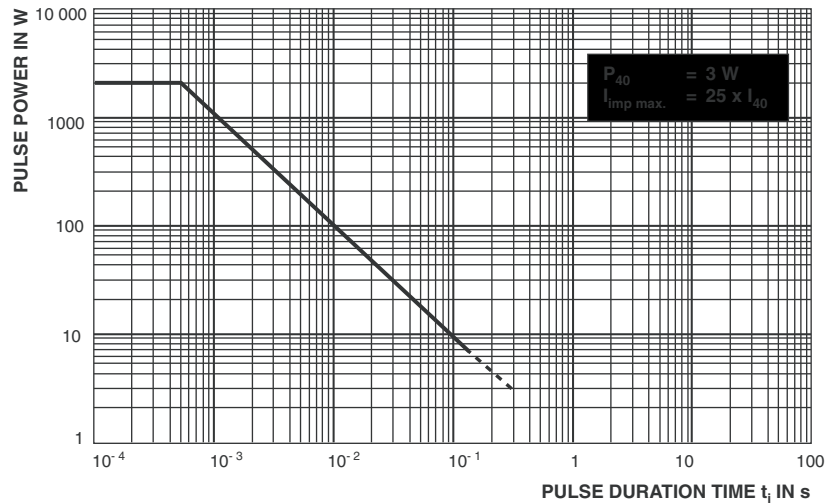
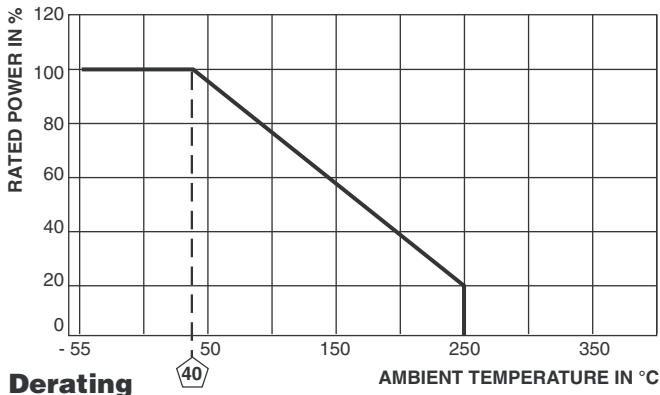
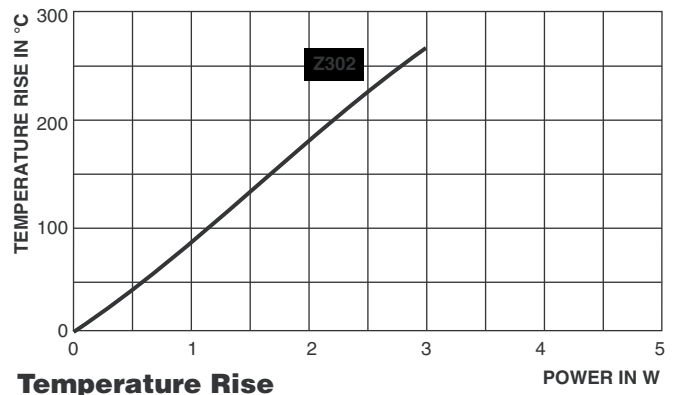
| SAP | DRALORIC LEGACY | PACKAGING 2 DIGITS                |               |
|-----|-----------------|-----------------------------------|---------------|
| D2  | R2 G53          | Reel pack tape 53 mm, 2000 pieces | Z302 BV 20327 |

**DIMENSIONS**


| MODEL         | DIMENSIONS in millimeters [inches] |                |               |                           | WEIGHT (g)     |
|---------------|------------------------------------|----------------|---------------|---------------------------|----------------|
|               | A                                  | B              | C             | D <sub>MIN.</sub>         |                |
| Z302 BV 20327 | 13<br>[0.512]                      | 4.8<br>[0.189] | 0.8<br>[0.31] | 53 ± 1<br>[2.087 ± 0.039] | 0.8<br>typical |

**PERFORMANCE**

| TEST                         | TEST RESULTS |
|------------------------------|--------------|
| Load Life, 12 000 h          | ± 3 % ΔR     |
| Vibration                    | ± 1 % ΔR     |
| Shock                        | ± 1 % ΔR     |
| Resistance to Soldering Heat | ± 1 % ΔR     |


**Pulse performance for single square pulses at 40 °C**

**Derating**

**Temperature Rise**



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