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

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{40\,°C}$ W (MAX.)	TOLERANCE STANDARD (MAX.) ± %	RESISTANCE RANGE (1) NOMINAL (TYP.) Ω	TEMP. COEF. (TYP.) ppm/°C	MAX. PEAK ENERGY (1) Ws (MAX.)	MAX. PEAK POWER (2) W (MAX.)	PERMISSIBLE I^2 x T VALUE (3) AT 40 °C A^2s (MIN.)	FUSING I^2 x T VALUE (3) AT 40 °C A^2s (MIN.)
Z3020414	Z302 BV 20327	3	5, 10	15	100 to 180	1.07	1875	0.07	0.27

Notes

(1) Ambient temperature = 23 °C
(2) Ambient temperature = 40 °C
(3) Ambient temperature = 100 °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 kΩ 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: Z320414415O9JD2FON (preferred part numbering format)

Z	3	2	0	4	1	4	4	1	5	0	9	J	D	2	F	O	N

MODEL	TCR/MATERIAL	VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
Z302	**4** = SWI (special winding)	**3 digit value** **1 digit multiplier** MULTIPLIER **9** = $*10^{-1}$	**J** = ± 5.0 % **K** = ± 10.0 %	(See Packaging table)	The 5 digit BV number will be encoded using a 36 character code. This code contains numbers 0...9 and letters A...Z (36 characters total and allows to encode at least 46.655 five digit BV numbers. 000 = Standard

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

Z302	SWI	15R	10 %	R2 G53
HISTORICAL MODEL	TCR/MATERIAL	VALUE	TOLERANCE CODE	PACKAGING

For technical questions, contact: ww1resistors@vishay.com

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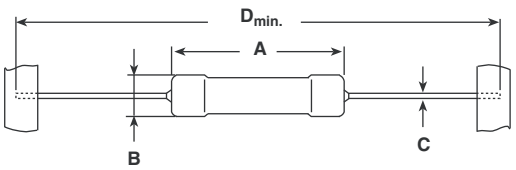
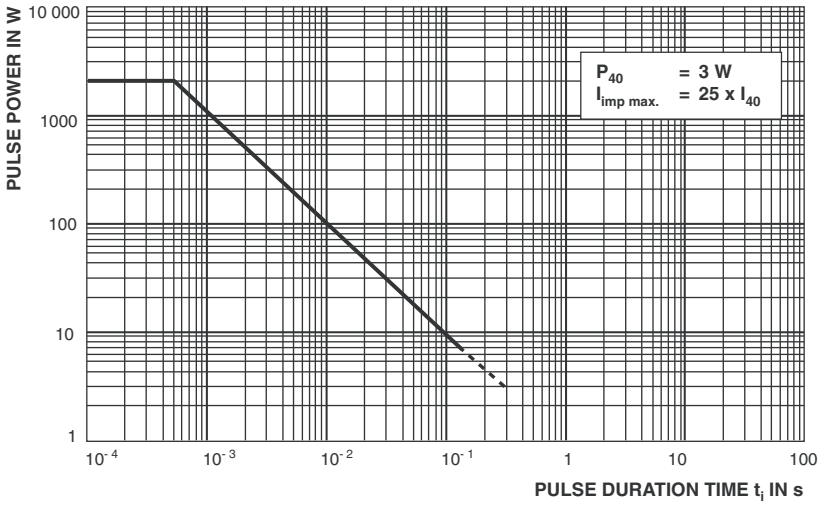
PACKAGING TABLE			
SAP	DRALORIC LEGACY	PACKAGING 2 DIGITS	
D2	R2 G53	Reel pack tape 53 mm, 2000 pieces	Z302 BV 20327

DIMENSIONS

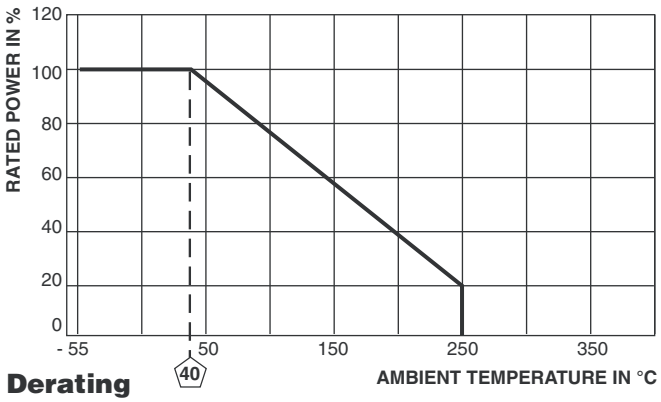


MODEL	DIMENSIONS in millimeters [inches]				WEIGHT (g)
	A	B	C	$D_{MIN.}$	
Z302 BV 20327	13 [0.512]	4.8 [0.189]	0.8 [0.31]	53 ± 1 [2.087 ± 0.039]	0.8 typical

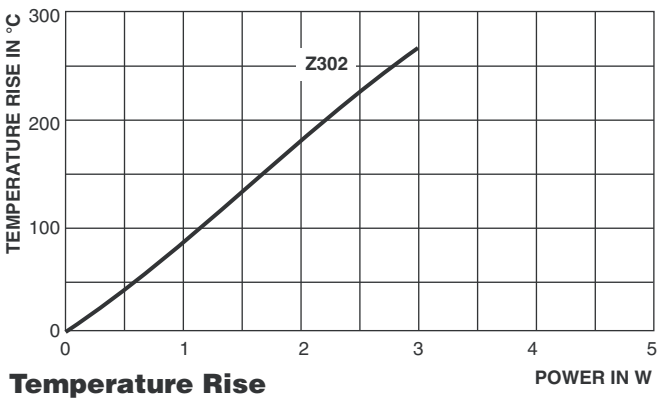
PERFORMANCE	
TEST	TEST RESULTS
Load Life, 12 000 h	± 3 % ΔR
Vibration	± 1 % ΔR
Shock	± 1 % ΔR
Resistance to Soldering Heat	± 1 % ΔR



Pulse performance for single square pulses at 40 °C



Derating



Temperature Rise

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