ALUMINUM ELECTROLYTIC CAPACITORS

250 CRZ-V

250 CRZ-V SMD Aluminum Electrolytic Capacitors with Low Impedance, High Vibration Capability

KEY BENEFITS

- Low impedance down to 35 mΩ
- Very high ripple current
- AEC-Q200 qualifiedVery low resistance values (0.5 mΩ to 5.0 mΩ)
- Extended useful life to 10 000 h at 105 °C
- High-temperature reflow soldering according to JEDEC J-STD-020
- Vibration proof up to 30 *g*

APPLICATIONS

- RoHS-compliant high-temperature electronic circuits in automotive, industrial, and SMPS products
- Filtering of unwanted noise
- DC voltage smoothing
- Electrical energy buffering
- Decoupling of super-imposed AC ripple

RESOURCES

- Datasheet: 250 CRZ-V - www.vishay.com/doc?28425
- For technical questions contact aluminumcaps1@vishay.com
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free RoHS COMPLIANT

A WORLD OF SOLUTIONS

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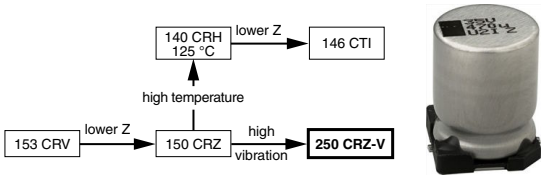

Fig. 1

QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Nominal case sizes (L x W x H in mm)	16 x 16 x 16 to 18 x 18 x 21
Rated capacitance range, C_R	220 µF to 10 000 µF
Tolerance on C_R	± 20 %
Rated voltage range, U_R	6.3 V to 100 V
Category temperature range	
6.3 V to 63 V:	-55 °C to +105 °C
80 V to 100 V:	-40 °C to +105 °C
Endurance test at 105 °C	3000 h to 8000 h
Useful life at 105 °C	5000 h to 10 000 h
Useful life at 40 °C; 1.8 x I_R applied	250 000 h to 500 000 h
Shelf life at 0 V, 105 °C	1000 h
Based on sectional specification	IEC 60384-18 / CECC 32300
Climatic category IEC 60068	
6.3 V to 63 V:	55 / 105 / 56
80 V to 100 V:	40 / 105 / 56

FEATURES

- Extended useful life: up to 10 000 h at 105 °C
- Polarized aluminum electrolytic capacitors, non-solid electrolyte, self healing
- SMD-version with base plate, lead (Pb)-free reflow solderable
- Very low impedance, very high ripple current
- Charge and discharge proof, no peak current limitation
- Parts for advanced high temperature reflow soldering according to JEDEC® J-STD-020
- Vibration proof, 6-pin version up to 30 *g*
- AEC-Q200 qualified
- High reliability
- Low ESR

APPLICATIONS

- SMD technology, for high temperature reflow soldering
- Industrial and professional applications
- Automotive, general industrial, telecom
- Smoothing, filtering, buffering

MARKING

- Rated capacitance (in µF)
- Rated voltage (in V)
- Date code, in accordance with IEC 60062
- Black mark or "-" sign indicating the cathode (the anode is identified by beveled edges)
- Code indicating group number (Z)

PACKAGING

Supplied in blister tape on reel

ADVANCED SOLDERING PROFILE FOR LEAD (Pb)-FREE REFLOW PROCESS ACCORDING TO JEDEC J-STD-020

REFLOW SOLDERING CONDITIONS for MAL225099xxxE3	
PROFILE FEATURES	CASE CODE 1616 TO 1821
Maximum time from 25 °C to T_{Peak}	300 s
Maximum ramp-up rate to 150 °C	3 K/s
Maximum time from 150 °C to 200 °C (t_1)	150 s
Maximum time from 190 °C to 200 °C (t_2)	110 s
Ramp up rate from 200 °C to T_{Peak}	0.5 K/s to 3 K/s
Maximum time above $T_{Liquidus}$ (217 °C) (t_3)	90 s
Maximum time above 230 °C (t_4)	60 s
Peak temperature T_{Peak}	245 °C
Maximum time above T_{Peak} minus 5 °C	30 s
Ramp-down rate from $T_{Liquidus}$	3 K/s to 6 K/s

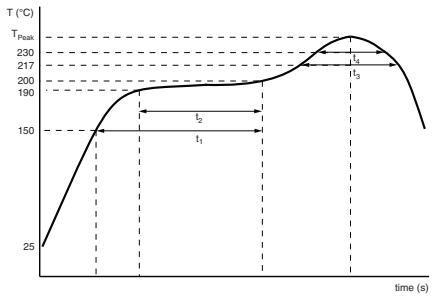

Fig. 4 - Maximum temperature load during reflow soldering

Notes

- Temperature measuring point on top of the case and on terminals.
- Max. 2 runs with pause of min. 30 min in between.

EXTENDED VIBRATION SPECIFICATIONS		
PARAMETER	PROCEDURE	REQUIREMENTS
Vibration improvement	From 10 *g* to 30 *g*	No visible damage; no leakage of electrolyte; marking legible ΔC/C: ± 5 % with respect to initial measurements
Vibration frequency range	10 Hz to 2 kHz	
Vibration profile	• Constant sinus sweep • 3 directions • 8 h per direction	

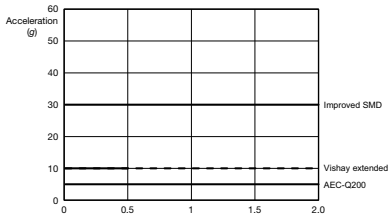

Fig. 5 - Vibration profile

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