



ALUMINUM CAPACITOR

140 CRH



SMD Aluminum Capacitor, RoHS-Compliant

KEY BENEFITS

- Solderable under lead (Pb)-free soldering conditions per JEDEC J-STD-020
- RoHS-compliant
- High-temperature operation (125 °C)
- AEC-Q200 qualified

APPLICATIONS

- RoHS-compliant high-temperature electronic circuits in automotive, industrial, and SMPS products
- Filtering of unwanted noise
- Smoothing of DC voltages
- Buffering of electrical energy
- Decoupling of super-imposed AC ripple

Aluminum Capacitors SMD (Chip), High Temperature

FEATURES

- Polarized aluminum electrolytic non-solid electrolyte, self healing
- SMD-version with base plate, lead (Pb)-free reflow solderable
- Charge and discharge proof, no peak current limitation
- Parts for advanced high temperature reflow soldering according to JEDEC J-STD-020 available
- Compliant to RoHS directive 2002/95/EC
- Vibration proof, 4-pin version and 6-pin version
- AEC-Q200 qualified

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 bevelled edges)
- Code indicating group number (H)

PACKAGING

Supplied in blister tape on reel

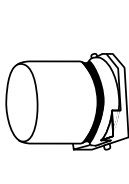
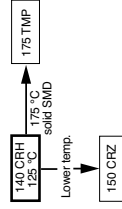
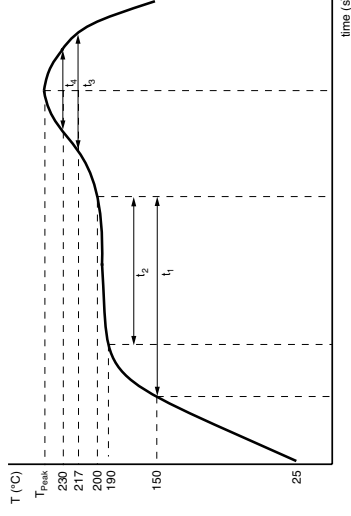


Fig.1 Component outline



DESCRIPTION	VALUE
Nominal case sizes (L x W x H in mm)	8 x 8 x 10 to 18 x 18 x 21
Rated capacitance range, C _R	10 μF to 4700 μF
Tolerance on C _R	$\pm 20\%$
Rated voltage range, U _R	6.3 V to 63 V
Category temperature range	-55 °C to +125 °C
Endurance test at 125 °C	1000 h to 3000 h
Useful life at 125 °C	1500 h to 5000 h
Useful life at 40 °C 1.8 x I _R applied:	150 000 h to 350 000 h
Shelf life at 0 V, 125 °C	1000 h
Based on sectional specification	IEC 60384-18/CECC 32200
Climatic category IEC 60068	55/125/56

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



Maximum temperature load during reflow soldering

REFLOW SOLDERING CONDITIONS for MAL214099xxxEE3

PROFILE FEATURES	CASE CODE 1010	CASE CODE 1213 to 1216	CASE CODE 1616 to 1821
Max. time from 25 °C to T _{Peak}	300 s	300 s	300 s
Min. ramp-up rate to 150 °C	3 K/s	3 K/s	3 K/s
Max. time from 150 °C to 200 °C, (t ₁)	150 s	150 s	150 s
Max. time from 190 °C to 200 °C, (t ₂)	110 s	110 s	110 s
Ramp up rate from 200 °C to T _{Peak}	0.5 K/s to 3 K/s	0.5 K/s to 3 K/s	0.5 K/s to 3 K/s
Max. time above T _{Liquidus} (217 °C) (t ₃)	90 s	90 s	90 s
Max. time above 230 °C (t ₄)	70 s	65 s	60 s
Peak temperature T _{Peak}	260 °C	250 °C	245 °C
Max. time above T _{Peak} minus 5 °C	40 s	30 s	30 s
Ramp-down rate from T _{Liquidus}	3 K/s to 6 K/s	3 K/s to 6 K/s	3 K/s to 6 K/s

Notes

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

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For technical questions, contact: aluminumcaps1@vishay.com

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