



ALUMINUM CAPACITOR

150 CRZ MAL215099xxxE3



SMD Aluminum Capacitor, RoHS-Compliant

KEY BENEFITS

- Solderable under lead (Pb)-free soldering conditions per JEDEC J-STD-020
- RoHS-compliant
- Low impedance down to 35 mΩ, high ripple current
- AEC-Q200 qualified

APPLICATIONS

- RoHS-compliant electronic circuits in automotive, industrial, and renewable energy systems
- Filtering of unwanted noise
- Smoothing of DC voltages
- Buffering of electrical energy
- Decoupling of superimposed AC ripple

Aluminum Capacitors SMD (Chip), Very Low Z

FEATURES

- 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 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 (Z)

PACKAGING

Supplied in blister tape on reel



RoHS
COMPLIANT

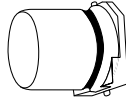
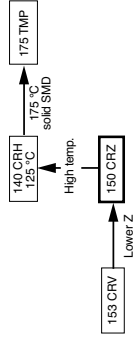


Fig.1 Component outline



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	33 μF to 10 000 μF
Tolerance on C_R	$\pm 20\%$
Rated voltage range, U_R	6.3 V to 63 V
Category temperature range	-55 °C to +105 °C
Endurance test at 105 °C	2000 h to 5000 h
Useful life at 105 °C	2500 h to 7000 h
Useful life at 40 °C; 1.8 X life applied	125 000 h to 350 000 h
Shelf life at 0 V, 105 °C	1000 h
Based on sectional specification	IEC 60384-18/CECC 32300
Climatic category IEC 60088	55/105/56

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

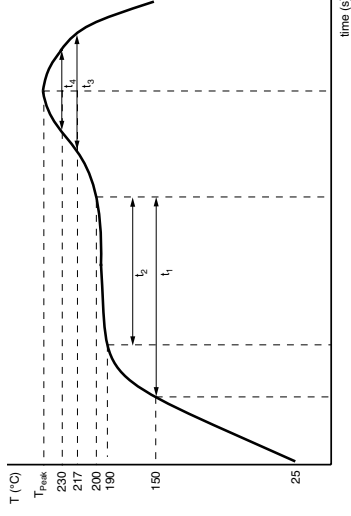


Fig.5 Maximum temperature load during reflow soldering

Table 5

REFLOW SOLDERING CONDITIONS for MAL215099xxxEE3			
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 $T_{Liquidus}$ (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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