TYPE ESR SURFACE MOUNT POLYMER ALUMINUM ELECTROLYTIC CAPACITORS.

Type ESR SMT capacitors are polarized, aluminum capacitors which use a highly conductive solid polymer as the electrolyte.

They have reliability advantages over both aluminum and solid tantalum electrolytic capacitors. Unlike aluminum capacitors, there is no liquid electrolyte to evaporate and cause failure.

Unlike solid tantalum, which can fail short and burn, type ESR capacitors in normal operation fail benignly as gradual open circuits after 25 to 50 years of operation.

The equivalent series resistance of these capacitors is much lower than for solid tantalum capacitors, thus you get much higher ripple current handling capability.

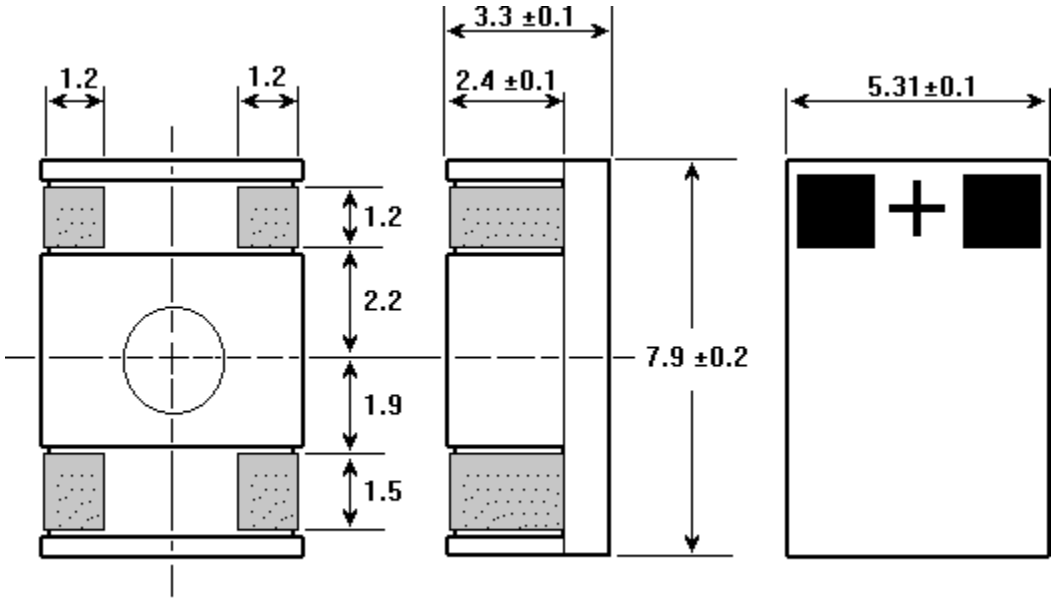
NOTE: *Type ESR capacitors are not recommended for new design, and therefore, may be subject to larger than expected minimum order quantities. CDE capacitor Types ESRD, ESRE, and ESRL are recommended for new design, and can be used as replacements to upgrade existing designs that employ Type ESR capacitors. However, the ESRD, ESRE, and ESRL footprint is not compatible with the Type ESR footprint.*

Specifications:

Operating Temperature Range: -55°C to +105°C at 100% rated Voltage.	**Moisture Resistance:** After 500 hours storage at +60°C and 90 to 95% R.H. without load, capacitor will meet the following limits: **Capacitance change** from the initial value shall not exceed; +60%/-20% for 4.0 Vdc ratings, +50%/-20% for 6.3 Vdc ratings, +40%/-20% for all other ratings. **DCL** shall meet the initial specification. **D.F.** shall meet the initial specification. The ratings of 68µf/4V, 82µf/4V, 68µf/6.3V, 47µf/8V, and 33µf/12.5V shall not exceed twice the initial specification.
Surge Voltage: 125% of the rated working Vdc	
Capacitance Range: 4.7uF to 82 uF	
Capacitance Tolerance: ±20% at 120Hz and +20°C.	
DC Leakage Current (DCL): After a 2 minute application of the rated voltage at + 20°C the DCL is; 4V: ≤ 0.06CV 6.3V - 16V: ≤ 0.04CV or 3µA (whichever is	

greater)	**Life Test:** Apply rated dc working voltage at 105°C for 1,000 hours and then stabilize to +20°C. Capacitors will meet the following limits: **Capacitance change** shall not exceed ± 10% of the initial measured value. **D.F. and D.C.L.** shall not exceed the initial specified value.
Dissipations Factor (DF): The ratio of the capacitor's equivalent series resistance to its reactance. It's no more than 0.06 at 120Hz and +20°C.	
Resistance to Soldering Heat: Capacitors will withstand 30 seconds at +240 ºC in a solder-reflow oven.	**Shelf Life Test:** Shelf life is typically 5 to 10 years. Accelerated test:after 500 hours at 105°C, capacitors will meet the following limits after stabilization at 20°C: **Capacitance change** shall not exceed ± 10% of the initial measured value. **D.F. and D.C.L.** shall not exceed the initial specified value.

Dimensions



Dimensions in millimeters

Available Ratings:

Capacitance (µF)	Catalog Number	Reel Quantity	Catalog Number For Bulk Quantitites Less Than Full Reel Qty.	Maximum Ripple AMPS rms (at 100 kHz, +100°C)
4 Vdc				
82.00	ESR820M0G1316	2,200	ESR820M0G000B	1.6
6.3 Vdc				
10.00	ESR100M0J1516	3,000	ESR100M0J000B	1.0
22.00	ESR220M0J1516	3,000	ESR220M0J000B	1.3
33.00	ESR330M0J1516	3,000	ESR330M0J000B	1.6
47.00	ESR470M0J1516	3,000	ESR470M0J000B	1.6
68.00	ESR680M0J1316	2,200	ESR680M0J000B	1.6
8 Vdc				
22.00	ESR220M0K1516	3,000	ESR220M0K000B	1.6
33.00	ESR330M0K1516	3,000	ESR330M0K000B	1.6
47.00	ESR470M0K1316	2,200	ESR470M0K000B	1.6
12.5 Vdc				
10.00	ESR100M1B1516	3,000	ESR100M1B000B	1.0
22.00	ESR220M1B1516	3,000	ESR220M1B000B	1.6
33.00	ESR330M1B1316	2,200	ESR330M1B000B	1.6
16 Vdc				
4.70	ESR4R7M1C1516	3,000	ESR4R7M1C000B	1.0
6.80	ESR6R8M1C1516	3,000	ESR6R8M1C000B	1.0
10.00	ESR100M1C1516	3,000	ESR100M1C000B	1.3

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