



Current Protection MOV Device/CMOV : FCMOV 20 series

1. Summary

- (a) **RoHS Compliant (Lead Free) Product**
- (b) Operation Voltage: 130Vac to 485Vac
- (c) Maximum Peak Pulse Current for 8x20us Current Wave, single pulse: 900A
- (d) Temperature Range : -40°C to 85°C

2. Agency Recognition

UL: UL1449 In Process

3. Feature

- Compliance to UL1449
- RoHS compliant Halogen Free and Lead-free available
- Wave solderable
- -40°C to +85°C operating temp range

4. Applications

- Surge protection in consumer electronics
- Surge protection in industrial electronics.
- Surge protection in electronic home appliances
- Relay and Electromagnetic valve surge absorption



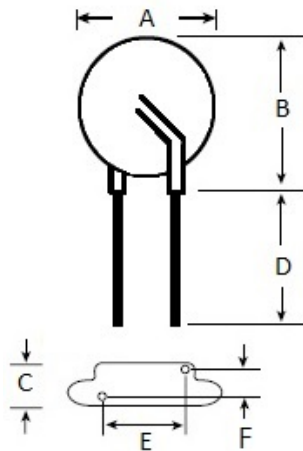
5. FCMOV Electrical Characteristics (25°C)

Part Number	Disc Dia.	Maximum Continuous Voltage		Varistor Voltage (@1mA)			Maximum Clamping Voltage @Test Current (@8/20µs)		Maximum Energy (@2ms)	Maximum Peak Current (@8/20µs)		Abnormal Overvoltage Surge Protection Specification				Typical Capacitance (@1KHz)
												Vmax (AC)	I _{max}	Typical Reaction Time	Surface Temp.	
		ACrms (V)	DC(V)	V _n (Vdc)	Min.	Max.	V _c (V)	I _p (A)	Max.	1x Pulse	15x Pulse	Max.	Max.	Max.	Max.	C
mm	V(AC)	V(DC)	V(DC)	V(DC)	V(DC)	V(DC)	A	J	A	A	(V)	(A)	(Sec)	(°C)	pF	
FCMOV20201	20	130	170	200	185	225	500	100	28	900	500	380	50	20	110	1900
FCMOV20221	20	140	180	220	198	242	520	100	32	900	500	380	50	20	110	1750
FCMOV20241	20	150	200	240	216	264	540	100	34	900	500	380	50	20	110	1600
FCMOV20271	20	175	225	270	243	297	570	100	38	900	500	380	50	20	110	1400
FCMOV20301	20	195	250	300	270	330	600	100	46	900	500	380	50	20	110	1100
FCMOV20331	20	215	275	330	297	363	630	100	50	900	500	380	50	20	110	1100
FCMOV20361	20	230	300	360	324	396	680	100	54	900	500	400	50	20	110	1100
FCMOV20391	20	250	320	390	351	429	710	100	56	900	500	480	50	20	110	1000
FCMOV20431	20	275	350	430	387	473	750	100	64	900	500	480	50	20	110	900
FCMOV20471	20	300	385	470	423	517	790	100	68	900	500	480	50	20	110	800
FCMOV20511	20	320	420	510	459	561	840	100	72	900	500	480	50	20	110	750
FCMOV20561	20	350	460	560	504	616	915	100	77	900	500	600	50	10	110	750
FCMOV20621	20	395	510	620	558	682	1020	100	85	900	500	600	50	10	110	570
FCMOV20681	20	420	560	680	612	748	1120	100	93	900	500	690	50	10	110	550
FCMOV20751	20	465	615	750	675	825	1235	100	101	900	500	690	50	10	110	530
FCMOV20781	20	485	640	780	702	858	1290	100	105	900	500	690	50	10	110	500

NOTE : Specification subject to change without notice.



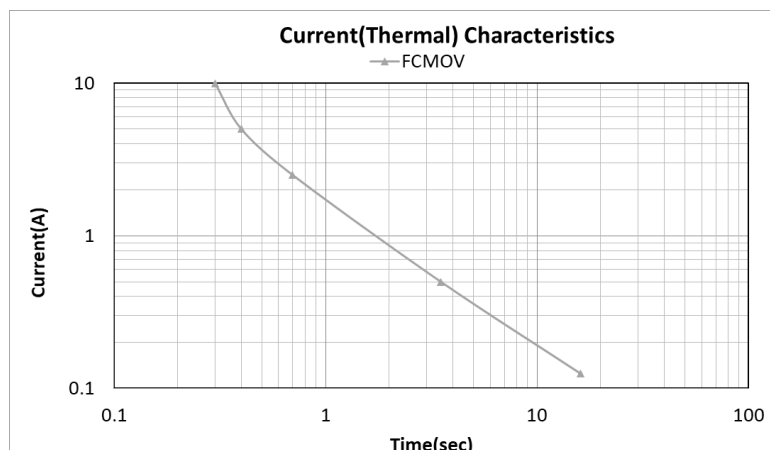
6. Production Dimensions (millimeter)



Lead Size :20AWG
Φ 0.81 mm Diameter

Part Number	A		B		C	D	E		F	
	Min.	Max.	Min.	Max.	Max.	Min.	Min.	Max.	Min.	Max.
FCMOV20201	19.0	23.0	23.0	28.0	9.0	25.4	6.5	8.5	2.0	5.0
FCMOV20221	19.0	23.0	23.0	28.0	9.0	25.4	6.5	8.5	2.0	5.0
FCMOV20241	19.0	23.0	23.0	28.0	9.0	25.4	6.5	8.5	2.0	5.0
FCMOV20271	19.0	23.0	23.0	28.0	9.0	25.4	6.5	8.5	2.0	5.0
FCMOV20301	19.0	23.0	23.0	28.0	9.5	25.4	6.5	8.5	2.5	5.5
FCMOV20331	19.0	23.0	23.0	28.0	9.5	25.4	6.5	8.5	2.5	5.5
FCMOV20361	19.0	23.0	23.0	28.0	9.5	25.4	6.5	8.5	2.5	5.5
FCMOV20391	19.0	23.0	23.0	28.0	9.5	25.4	6.5	8.5	2.5	5.5
FCMOV20431	19.0	23.0	23.0	28.0	9.5	25.4	6.5	8.5	2.5	5.5
FCMOV20471	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	4.0	7.0
FCMOV20511	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	4.0	7.0
FCMOV20561	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	4.0	7.0
FCMOV20621	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	4.0	7.0
FCMOV20681	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	4.5	7.5
FCMOV20751	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	5.0	8.0
FCMOV20781	19.0	23.0	23.0	28.0	11.0	25.4	6.5	8.5	5.0	8.0

7. Current(Thermal) Characteristics

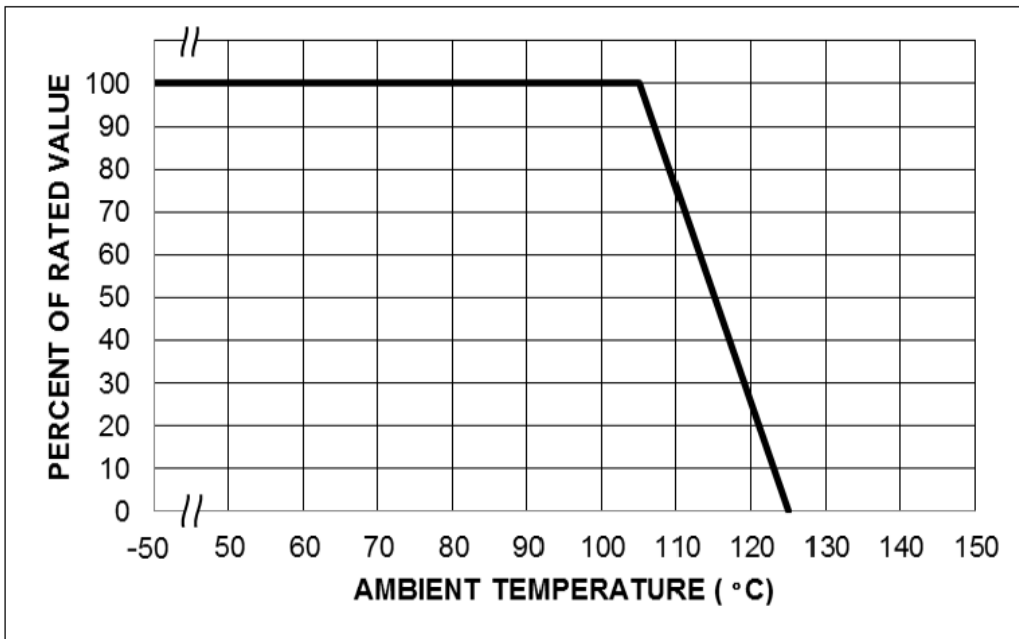


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8. Power Derating Curve

Should transients occur in rapid succession, the average power dissipation is the energy (watt-seconds) per pulse times the number of pulses per second. The power so developed must be with the specifications shown on the Device Ratings and Specifications Table for the specific device. The operating values of a MOV need to be derated at high temperatures as shown above. Because varistors only dissipate a relatively small amount of average power they are not suitable for repetitive applications that involve substantial amounts of average power dissipation.



9. Material Specification

Lead material : Copper clad steel wire, 20 AWG.

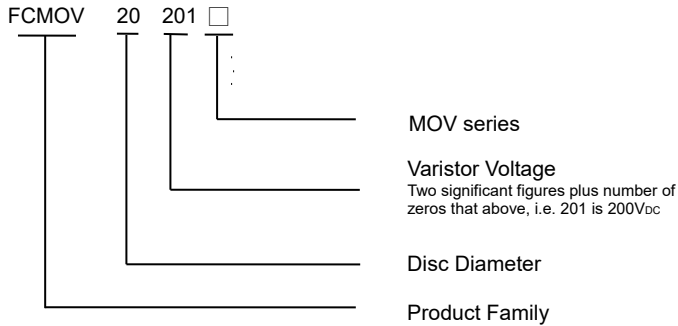
Soldering characteristics: MIL-STD-202, Method 208E.

Insulating coating: Flame retardant epoxy, meets UL-94V-0 requirement.

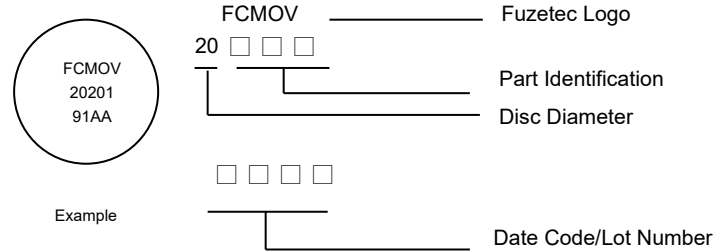


10. Marking System

Part Numbering System



Part Marking System



Note: Font on Marking may look slightly different due to fine turnings of each Marking printer.

Warning: -Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.



- Device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.
- Avoid contact of CMOV device with chemical solvent. Prolonged contact will damage the device performance.