DATA SHEET

METAL OXIDE VARISTOR – F34 SERIES

FEATURE

- ✧ Wide operating voltage (V_{1mA}) range from 82V to 910V.
- ✧ Fast responding to transient over-voltage.
- ✧ Large absorbing transient energy capability.
- ✧ Low clamping ratio and no follow-on current.
- ✧ Meets MSL level 1, per J-STD-020

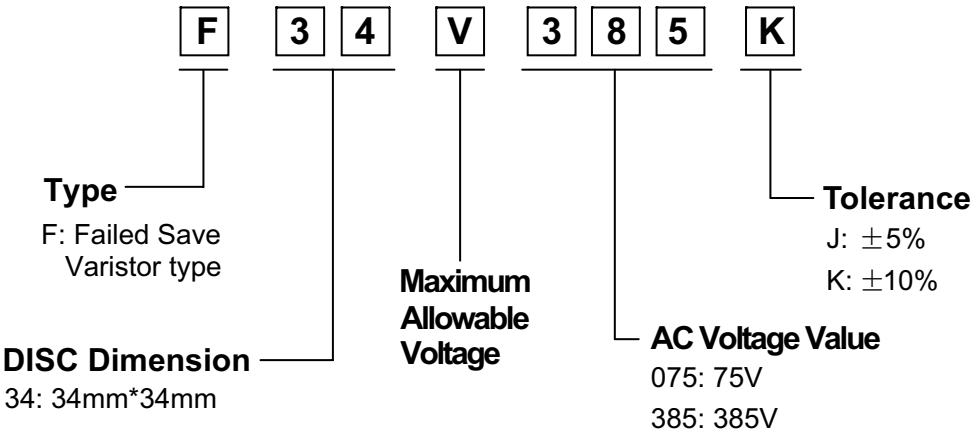
APPLICATION

- ✧ Transistor, diode, IC, thyristor or triac semiconductor protection.
- ✧ Surge protection in consumer electronics.
- ✧ Surge protection in industrial electronics.
- ✧ Surge protection in electronic home appliances, gas and petroleum appliances.
- ✧ Relay and electromagnetic valve surge absorption.

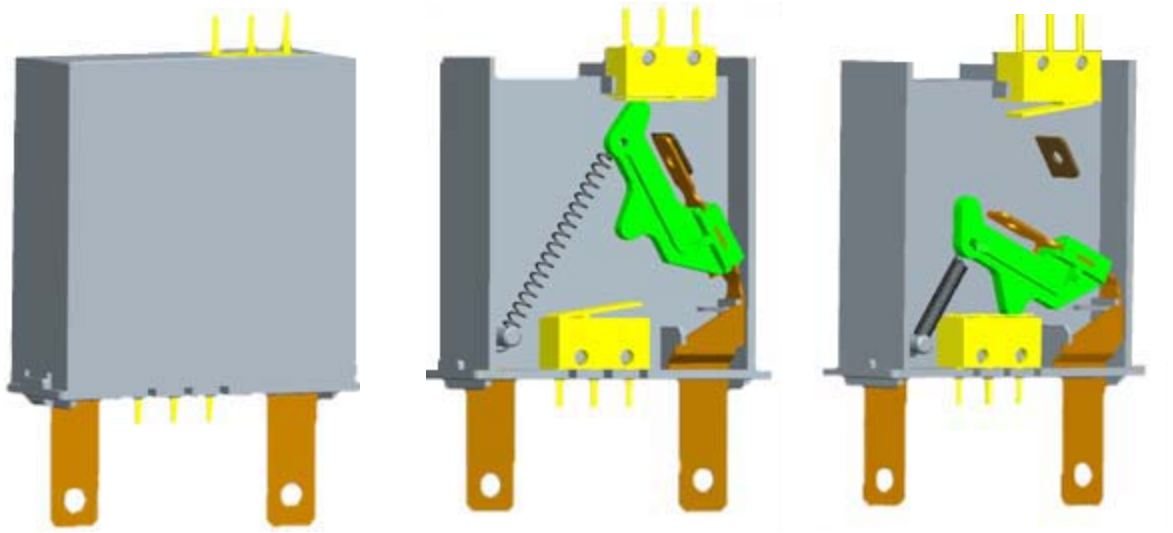
GENERAL CHARACTERISTICS DEFINITION

- ✧ Operating Temperature：-40℃ ~ +85℃
- ✧ Storage Temperature： -40℃ ~ +85℃

PART NUMBER CODE



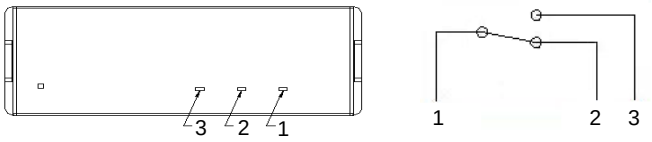
INTERNAL STRUCTURE

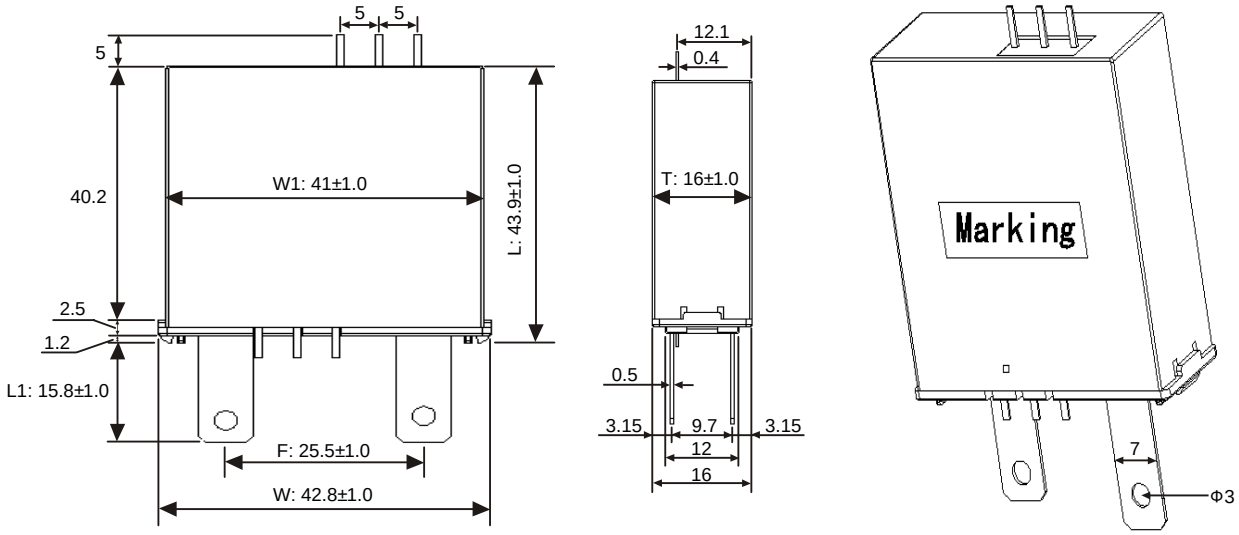


DIMENSIONS

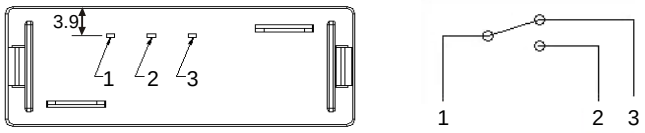
Unit: mm

Top:





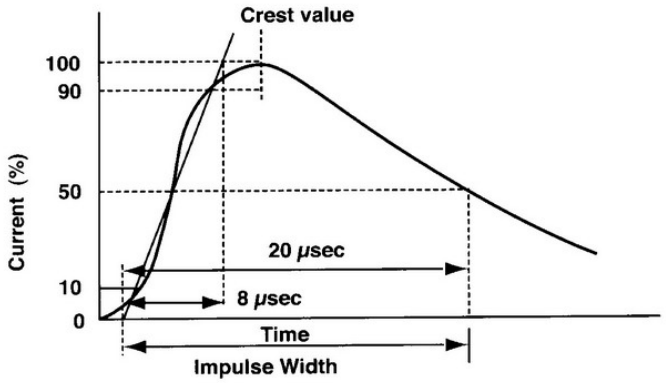
Botton:



ELECTRICAL CHARACTERISTIC

Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge current		Maximum Energy (10/1000μs)
	V_{AC}(V)	V_{DC}(V)	V_{1mA}(V)	I_P(A)	V_C(V)	In (A)	I Max. (A)	(J)
F34V050K	50	65	82(74~90)	300	135	20000	40000	156
F34V060K	60	85	100(90~110)	300	165	20000	40000	195
F34V075K	75	100	120(108~132)	300	200	20000	40000	235
F34V150K	150	200	246(222~270)	300	395	20000	40000	480
F34V180K	180	230	283(256~310)	300	470	20000	40000	540
F34V250K	250	320	410(371~449)	300	650	20000	40000	830
F34V275K	275	350	453(410~496)	300	710	20000	40000	920
F34V320K	320	415	510(459~561)	300	845	20000	40000	1060
F34V385K	385	505	620(558~682)	300	1025	20000	40000	1250
F34V420K	420	560	680(612~748)	300	1120	20000	40000	1250
F34V460K	460	615	750(675~825)	300	1240	20000	40000	1280
F34V510K	510	670	820(738~902)	300	1355	20000	40000	1395
F34V550K	550	745	910(819~1001)	300	1500	20000	40000	1475

ELECTRICAL RATINGS

Item	Test Condition/Description	Requirement
Varistor Voltage	The voltage between two terminals with the specified measuring current 1mA.DC applied is call Vb.	To meet the specified value
Maximum Allowable Voltage	The recommended maximum sine wave voltage (RMS) or the maximum DC voltage can be applied continuously.	
Maximum Clamping Voltage	The maximum voltage between two terminals with the specification standard impulse current. Applied waveform: 8/20μsec. 	
Rated Wattage	The maximum average power that can be applied within the specified ambient temperature.	
Energy	The maximum energy within the varistor voltage change of ±10% when one impulse of 10/1000μsec. or 2 msec. is applied.	
Withstanding Surge Current	The maximum current within the varistor voltage change of ±10% with the standard impulse current (8/20μsec.) applied one time.	
Varistor Voltage Temp. Coefficient	$\frac{Vb\ at\ 85℃\ -\ Vb\ at\ 25℃}{Vb\ at\ 25℃}\times\frac{1}{60}\times 100\ (\%℃)$	≤±0.05% /℃max

MECHANICAL RATINGS

Test Parameter	Test Condition / Description	Performance Requirements
Terminal Pull Strength	1Kgf; 10s	No outstanding damage
Terminal Bending Strength	0.5Kgf; 90°, 3 Times	No outstanding damage
Vibration	Frequency: 10~55HZ Amp: 0.75mm, 1 Min	No outstanding damage
Solderability	Solder Temperature: 225±5℃ Immersed Time: 2±0.5s	Min. 95% of The Terminal should be covered with solder uniformly
Resistance to Soldering Heat	Solder Temperature: 260±5℃ Immersed Time: 10±1s	$\triangle V_{1mA}/ V_{1mA} \leqslant ±5\%$

ENVIRONMENTAL RATINGS

Test Parameter	Test Condition / Description			Performance Requirements
High Temperature Storage	Ambient Temp: 85±2℃ Duration: 1000h			$\triangle V_{1mA}/ V_{1mA} \leqslant \pm 5\%$
Low Temperature Storage	Ambient Temp: -40±2℃ Duration: 1000h			$\triangle V_{1mA}/ V_{1mA} \leqslant \pm 5\%$
High Humidity Storage /Damp Heat	Ambient Temp: 40±2℃ 90~95% R.H. Duration: 1000h			$\triangle V_{1mA}/ V_{1mA} \leqslant \pm 5\%$
Temperature Cycle	Step	Temp(℃)	Period	$\triangle V_{1mA}/ V_{1mA} \leqslant \pm 5\%$
	1	-40℃	30 min.	
	2	Room Temp	15 min.	
	3	85℃	30 min.	
	4	Room Temp	15 min.	
High Temperature Load	Ambient Temp: 85±2℃ Duration: 1000h Load: Maximum Allowable Voltage			$\triangle V_{1mA}/ V_{1mA} \leqslant \pm 10\%$
High Humidity Load	Ambient Temp: 40±2℃ 90~95% R.H. Duration: 1000h Load: Maximum Allowable Voltage			$\triangle V_{1mA}/ V_{1mA} \leqslant \pm 10\%$