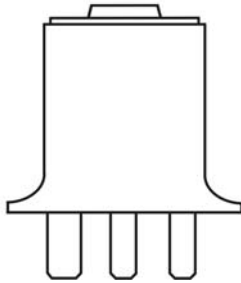




High Energy Varistors - ET 40 Series

Description



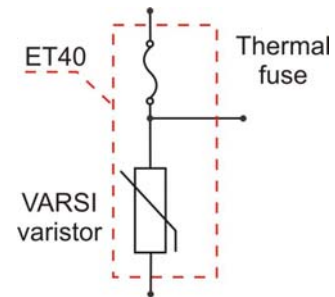
The ET types are heavy-duty metal oxide varistors with the thermal fuse. Thermal Fuse protects ET types from varistor failure in the event of abnormal overvoltage. The ET Series offers excellent surge protection with extra safety for various electronic equipment such as: traffic and railway signal systems, communication equipment, waterworks, automatic control devices for power distribution, oil drilling and mining equipment (dredgers, cranes, etc.). The advantages of the ET Series are: terminals constructed for PCB mounting, a thermal fuse which protects ET types from varistor failure, in event of abnormal over voltage or varistor thermal runaway, we can achieve remote signalisation with external circuitry.

Main Features

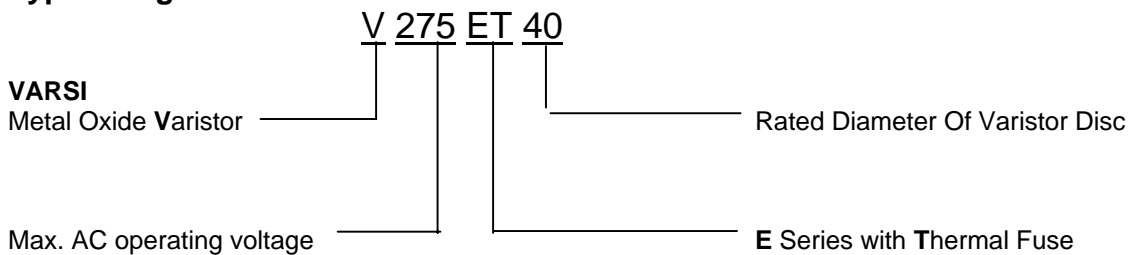
Wide Operating Voltage Range V_{RMS} 75V to 440V
 Very Good Clamping Voltage at 300A (8/20 μ s) 200V – 1180V
 High Max. Discharge Current Capability I_{max} (8/20 μ s) 40.000A
 Terminals constructed for PCB mounting

General Technical Data

Tested in accordance with	IEC 61643-1 IEC 61051-1 and UL1449
Category IEC / VDE	III / D
Operating temperature	-40 ... +85°C
Response Time	< 25 ns
Mounting	on Printed Circuit Board



Type Designation





High Energy Varistors - ET 40 Series

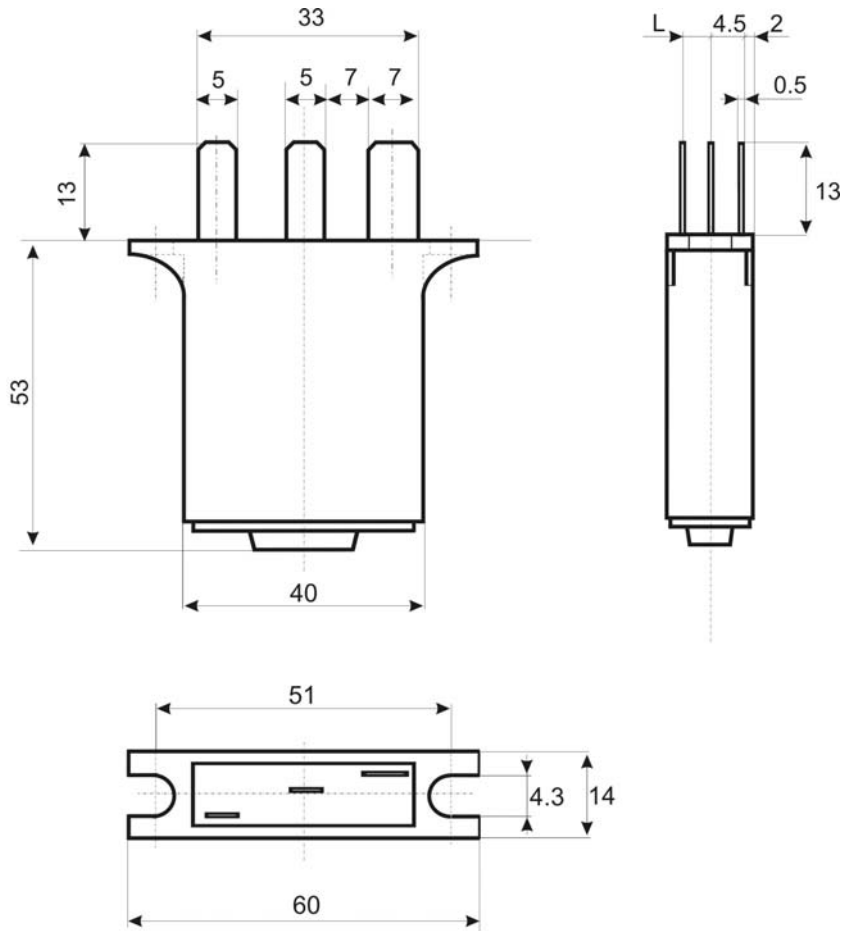
Part Number	Maximum Ratings TA = +85°C (+185°F)					Characteristics TA = +25°C (+77°F)					V/I Characteristic	Derating curve
	Operating Voltage		Average Power Dissipation	Permissible Peak Current (8/20 μs)	Energy Absorption (2 ms)	Varistor Voltage (1 mA)		Maximum Clamping Voltage at Test Current (8/20 μs)		Typical Capacitance f=1kHz		
	RMS Voltage	DC Voltage				VN (V)	ΔVN (%)	Vc (V)	I (A)			
	V _{RMS} (V)	V _{DC} (V)	P _{max} (W)	I _{max} (A)	W _{max} (J)					C (pF)		
V75ET40	75	100	1.4	40000	180	120	±10	200	300	13000		
V95ET40	95	125	1.4	40000	220	150	±10	250	300	11000		
V115ET40	115	150	1.4	40000	280	180	±10	300	300	8000		
V130ET40	130	170	1.4	40000	320	205	±10	340	300	5800		
V140ET40	140	180	1.4	40000	340	220	±10	360	300	5400		
V150ET40	150	200	1.4	40000	370	240	±10	395	300	5000		
V175ET40	175	225	1.4	40000	410	270	±10	455	300	4200		
V230ET40	230	300	1.4	40000	470	360	±10	595	300	3400		
V250ET40	250	320	1.4	40000	505	390	±10	650	300	3100		
V275ET40	275	350	1.4	40000	565	430	±10	710	300	2900		
V300ET40	300	385	1.4	40000	600	470	±10	775	300	2700		
V320ET40	320	420	1.4	40000	655	510	±10	840	300	2400		
V385ET40	385	505	1.4	40000	815	620	±10	1025	300	2000		
V420ET40	420	560	1.4	40000	930	680	±10	1120	300	1900		
V440ET40	440	585	1.4	40000	950	715	±10	1180	300	1800		

All other voltages are available on request



High Energy Varistors - ET 40 Series

Dimensions

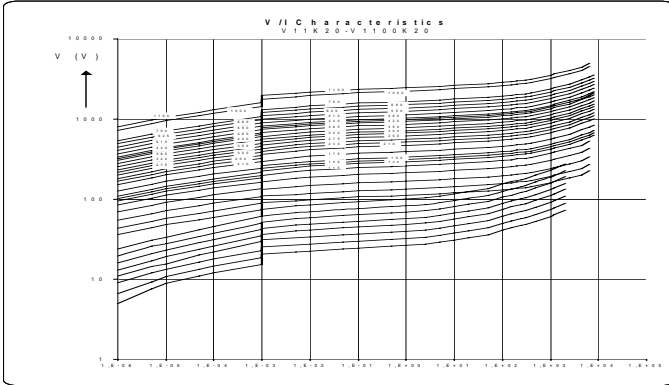


Part Number	Dimensions
	L±1 (mm)
V75ET40	1.7
V95ET40	2.0
V115ET40	2.3
V130ET40	2.7
V140ET40	2.8
V150ET40	2.9
V175ET40	3.1
V230ET40	2.7
V250ET40	2.9
V275ET40	3.1
V300ET40	3.4
V320ET40	3.6
V385ET40	4.3
V420ET40	4.3
V440ET40	4.4

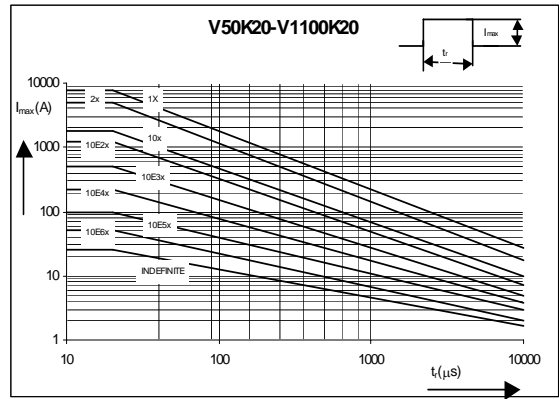


High Energy Varistors - ET 40 Series

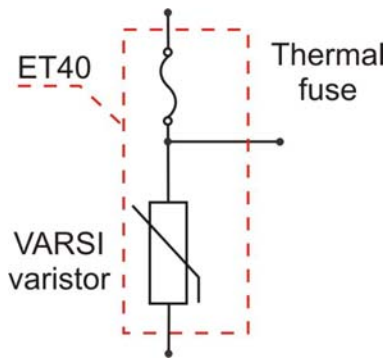
V-I Characteristics



Pulse Ratings



Application Examples



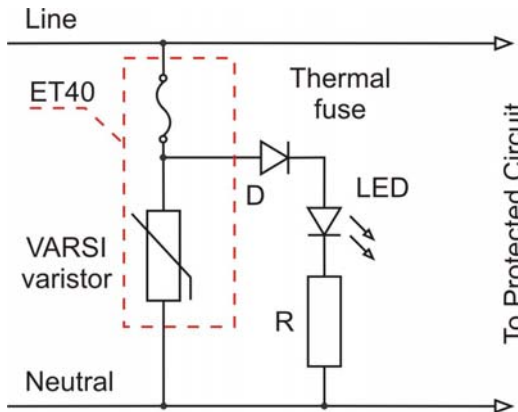
The picture shows the symbol for our product named ET40. It is VARSI varistor with thermal fuse. If thermal fuse opens (it is normally closed), the varistor is being disconnected from Line, thus providing the protection of the varistor before its demolition (thermal runaway).



High Energy Varistors - ET 40 Series

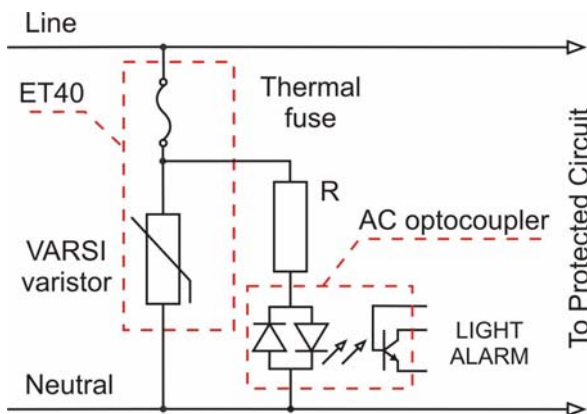
Application Examples for ET40

Application Example 1:



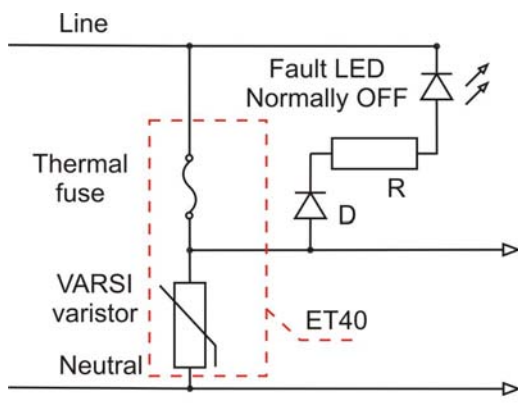
In this case we connect the LED between Line (after thermal disconnector) and Neutral and the LED is normally ON. If thermal fuse opens, the LED indication changes from ON to OFF.

Application Example 2:



In this case we connect the Line after thermal fuse on optocoupler to provide galvanic isolation between VTD and LINE, then signaling an alarm.

Application Example 3:



This example is in use if we want to monitor lead of ET varistor to ensure that equipment is only operated when overvoltage protection is present. There is also LED indication that is normally OFF. If thermal fuse opens, the LED changes from OFF to ON and connected equipment turns OFF. It could be used if we have very sensitive and expensive equipment.