



Features

- Fast impulse breakdown at 5kV/μs
- Tight DC breakdown voltage tolerance (±10%)
- Low capacitance
- Small size
- Hermetically sealed design provides maximum integrity under extreme environmental conditions

Applications

- Test equipment
- Video displays
- Medical electronics
- Instrumentation circuits

Standard Voltages

Series	DC Breakdown Voltage (Nom)	Unit
PMT(275)	350	V
	400	V
	450	V
	500	V
UMT(275)	550	V
	600	V
	650	V
	750	V
	800	V
	850	V
	900	V
	1.0	kV
	1.5	kV
	2.0	kV
	2.5	kV

Devices in the PMT/UMT(275) Series with other breakdown voltages in the 350-2500V range are available upon request.

Description

High Energy Devices' PMT(275) and UMT(275) Series surge protectors (350-500V and 550-2500V respectively) provide a high level of protection from high-speed, high-current transient surges. These devices are constructed using a proprietary semiconductor junction process which results in nanosecond response times combined with peak current ratings in excess of 20kA.

Ordering Information

A complete part number is represented by the digits below. Breakdown voltages are expressed in Volts for devices <1000V and kV for devices ≥ 1kV. For example, UMT(275)800 is an 800V UMT(275) series device with no options, UMT(275)800E1 is an 800V UMT(275) series device in an epoxy molded package with left hand mounting and UMT(275)1.0E2 is a 1kV UMT(275) series device in an epoxy molded package with right hand mounting.

Product Series / Part Number	Breakdown Voltage	Options*
PMT(275)XXXX	350-500V	E1, E2
UMT(275)XXXX	550-900V	E1, E2
UMT(275)X.XX	1.0-2.5kV	E1, E2

*Options:

- Blank: No options - bare tube only
 E1: Epoxy molded device with left hand mounting
 E2: Epoxy molded device with right hand mounting

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(275)350			PMT(275)400			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	315	350	385	360	400	440	V
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	750	-	-	750	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(275)450			PMT(275)500			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	405	450	495	450	500	550	V
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	750	-	-	750	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	UMT(275)550			UMT(275)600			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	495	550	605	540	600	660	V
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	760	-	-	825	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	UMT(275)650			UMT(275)750			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	585	650	715	675	750	825	V
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	895	-	-	1030	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	UMT(275)800			UMT(275)850			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	720	800	880	765	850	935	V
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	1100	-	-	1170	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	UMT(275)900			Units
			Min	Nom	Max	
Device Specifications						
DC Breakdown	100V/s	V_{BD}	810	900	990	V
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	1240	V
Insulation Resistance	100V	IR	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	pF
Life Ratings						
Surge Life	1kA (PW=20 μ s)	-	500	-	-	surges

Specifications (@25°C)

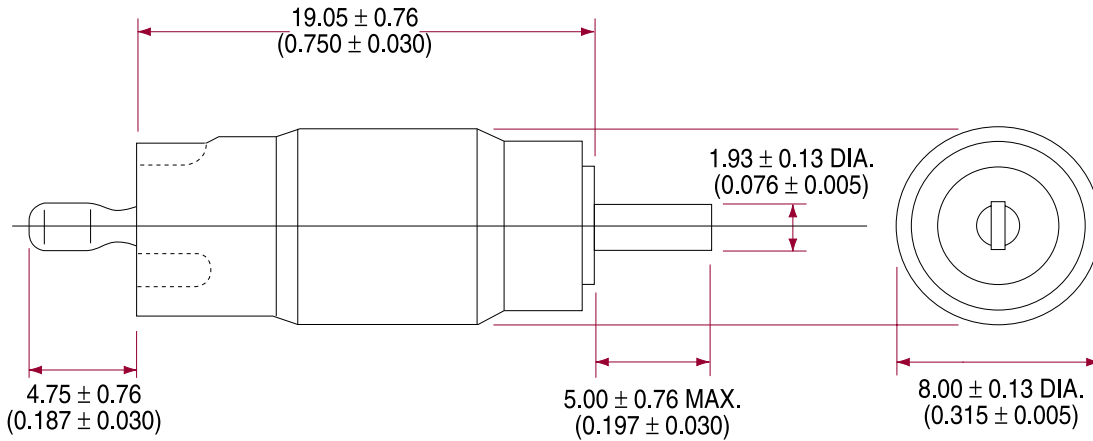
Parameter	Conditions	Symbol	UMT(275)1.0			UMT(275)1.5			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	0.9	1.0	1.1	1.35	1.50	1.65	kV
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	1.38	-	-	2.06	kV
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

Specifications (@25°C)

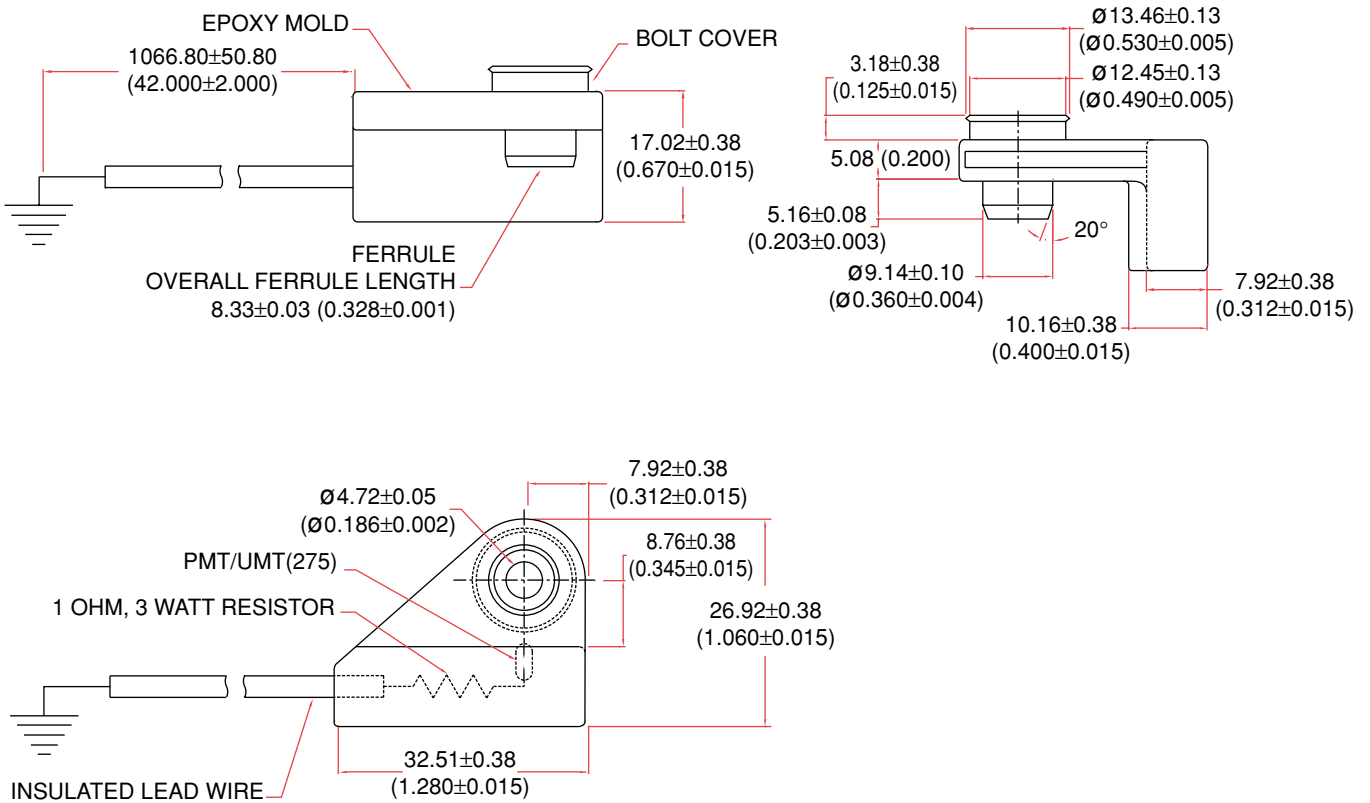
Parameter	Conditions	Symbol	UMT(275)2.0			UMT(275)2.5			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	1.8	2.0	2.2	2.25	2.50	2.75	kV
Impulse Breakdown	5kV/ μ s	V_{bd}	-	-	2.75	-	-	3.44	kV
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	3.5	-	-	3.5	pF
Life Ratings									
Surge Life	1kA (PW=20 μ s)	-	500	-	-	500	-	-	surges

MECHANICAL DIMENSIONS
mm/(inches)

Standard



Option: E2



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Specification: PMT/UMT(275) Series
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