

BB-232HESP

BB-HESP4DR

BB-422HESP

BB-485HESP

3-Stage RS-232/422/485 **Serial Surge Suppressors**



Features

- Three stages of protection on every data line:
 - 1) Gas discharge tube
 - 2) Series resistor
 - 3) Transient voltage suppressor
- Protected signal ground connection
- Rugged terminal block connections
- Dedicated chassis ground lugs



Introduction

These three-stage surge suppressors protect against lightning strikes and other voltage disturbances with three stages of protection for each line: a gas discharge tube followed by a series resistor and finally a Transient Voltage Suppresser (TVS). The devices are housed in rugged cases with a protected signal ground connection and dedicated chassis ground lugs. In order to work properly, it is important to have a good connection between the #10 screws and a solid earth ground.

Specifications

Serial Interface

Model:	Line Connectors:	Equipment Connectors:	Interfaces:	
ULI-242T			RS-232	
ULI-244TI	Terminal blocks	Terminal blocks	RS-422, RS-485	
ULI-244T	Terrillar blocks		110-422, 110-403	
ULI-246T			RS-485	

Isolation & Surge Suppression

	Clamping Voltage	Series Resistance	Clamping Voltage	Clamping	Lines
Model:	- Stage 1:	- Stage 2:	- Stage 3:	Time:	Protected:
UI I-242T*			14.3 Vdc, min.		
ULI-2421			15.8 Vdc, max.		_
ULI-244TI#	72 Vdc, min.	2.7 Ohms	6.45 Vdc, min. 7.14 Vdc, max.	$< 5 \times 10^9$	5
ULI-244T*	108 Vdc, max.			seconds	
ULI-246T*					3

^{*2} terminal posts and 2 metal mounting brackets provide a good ground connection. #1 terminal post provides a good ground connection.

Mechanical

Model:	Enclosure:	Dimensions, mm:	Mounting:	Weight, gm
ULI-242T	Metal	114 x 84 x 46	Panel	190
ULI-244TI	Plastic	35.5 x 78.8 x 105.3	DIN rail	114
ULI-244T	Metal	114 x 84 x 46	Panel	190
ULI-246T	ivietai	114 X 04 X 40	Parier	190

Environmental

Model:	Operating Temperature:	Storage Temperature:	Operating Humidity:	
ULI-242T	0 to +70 °C			
ULI-244TI	-40 to +80 °C	-40 to +85 °C	0 to 000/	
ULI-244T	0 + 70 00	-40 10 +65 10	0 to 95%, non-condensing	
ULI-246T	0 to +70 °C			

Meantime Between Failures (MTBF)

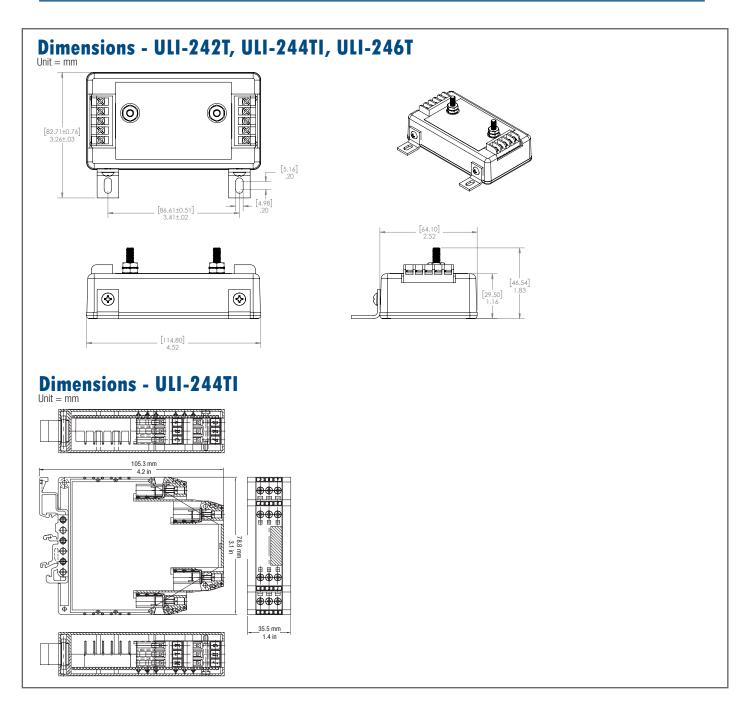
 Calculation Method MIL217F Parts Count Reliability Prediction

Model:	Hours:
ULI-242T	7522077
ULI-244TI	862813
ULI-244T	6976322
ULI-246T	4664831

Regulatory / Approvals / Certifications

FCC, CE (all models)

Model:	CE Standards	CE Directives
ULI-242T	2014/30/EU - Electromagnetic	EMC:
ULI-244TI	Compatibility Directive	EN 55032 Class B – Electromagnetic Compatibility of
UI I-244T	2011/65/EU – amended by (EU)	Multimedia Equipment – Emission Requirements
	2015/863 Reduction of Hazardous	
LILLOADT	Substance Directive (RoHS)	EN 55024 – Information Technology Equipment –
ULI-246T	2012/19/EUWaste Electrical and	Immunity Characteristics - Limits and Methods of
	Electronic Equipment (WEEE)	Measurement



Ordering Information

Model	Part Number to Order	Description	
ULI-242T	BB-232HESP	3-stage RS-232 Surge Suppressor, 5 Protected Lines, Panel Mount.	
ULI-244TI	BB-HESP4DR	3-stage RS-422/485 Surge Suppressor, 5 Protected Lines, Wide Temperature, DIN Rail Mount.	
ULI-244T	BB-422HESP	3-stage RS-422/485 Surge Suppressor, 5 Protected Lines, Panel Mount.	
ULI-246T	BB-485HESP	3-stage RS-485 Surge Suppressor, 3 Protected Lines, Panel Mount.	

ULI-240 Series Selection Guide

3-Stage RS-232/422/485 **Serial Surge Suppressors**



Common Features

- Three stages of protection on every data line:
 - 1) Gas discharge tube
 - 2) Series resistor
 - 3) Transient voltage suppressor
- Protected signal ground connection
- Rugged terminal block connections
- Dedicated chassis ground lugs

Surge Suppressor Comparison Table

Model Number	ULI-242T	ULI-244T	ULI-244TI	ULI-246T	
Part Number to Order	BB-232HESP	BB-422HESP	BB-HESP4DR	BB-485HESP	
Description		3-Stage Surge Suppressors			
Key Features	Rugged Metal Ca	Rugged Metal Case, Panel Mount DIN Rail Mount, Plastic Case, Wide Operating Temperature		Rugged Metal Case, Panel Mount	
Serial Protocol	RS-232	RS-	422/485	RS-485	
Serial Line Connectors		Termin	al blocks	<u>'</u>	
Equipment Line Connectors		Termir	al blocks		
Stage 1: Clamping Voltage		72 to 108 V	dc (min./max.)		
Stage 2: Series Resistance		2.7 Ohms			
Stage 3: Clamping Voltage	14.3 - 15.8 Vdc (min./max.)	- 15.8 Vdc (min./max.) 6.45 - 7.14 Vdc (min./max.)			
Clamping Time		Less than 5 x10° seconds			
Lines Protected		5 3			
Enclosure	Me	Metal Plastic Metal			
Dimensions, mm	114 x 8	114 x 84 x 46 35.5 x 78.8 x 105.3			
Mounting Installation	Pa	Panel		Panel	
Operating Temperature		0 to +70 °C		0 to +70 °C	
MTBF (MIL217F), hours	7522077	6976322	862813	4664831	
		, ,	D, RoHS, WEEE		
		2014/30/EU – Electromagnetic Compatibility Directive			
Regulatory/Approvals/	2011/65/EU – amended by (EU) 2015/863 Reduction of Hazardous Substance Directive (RoHS)				
Certifications	20	2012/19/EUWaste Electrical and Electronic Equipment (WEEE)			
	EN 55032 Class B -	EN 55032 Class B – Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements			
	EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement				