

# Coaxial Limiter

## VLM-33+

50Ω Broadband 30 to 3000 MHz



### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Input Power	2W

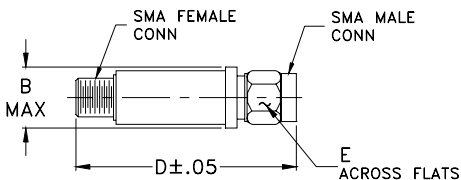
Permanent damage may occur if any of these limits are exceeded.

### Coaxial Connections\*

INPUT	SMA FEMALE
OUTPUT	SMA MALE

\* Suggested Pin Connections. If customer needs reverse connection, consult Mini-Circuits.

### Outline Drawing



### Outline Dimensions (inch/mm)

B	D	E	wt
.410	1.43	.312	grams
10.41	36.32	7.92	10.0

### Features

- wideband, 30 to 3000 MHz
- low insertion loss 0.23 dB typ.
- fast recovery time, 10nsec typ.
- excellent VSWR 1.05:1 typ.
- low leakage power, 11.5 dBm typ.

### Applications

- protects low noise amplifiers and other devices from ESD or input power damage
- military, hi-rel applications

CASE STYLE: FF704

Connectors	Model	Price	Qty.
SMA	VLM-33-S+	\$46.95	(1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

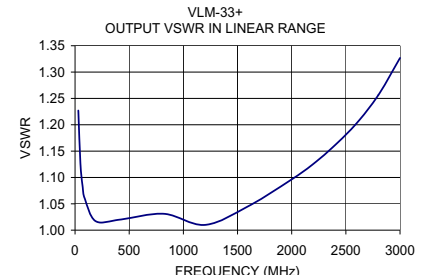
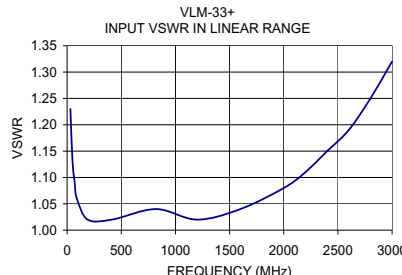
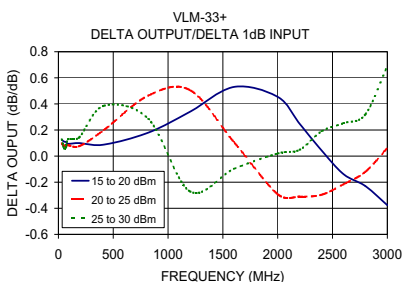
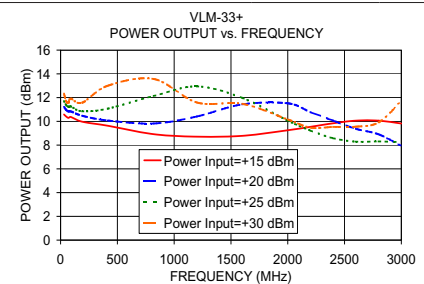
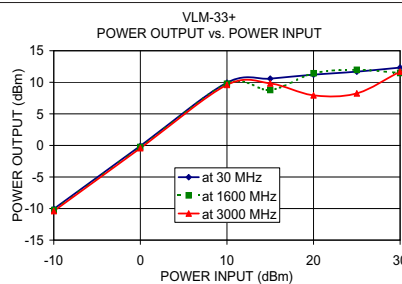
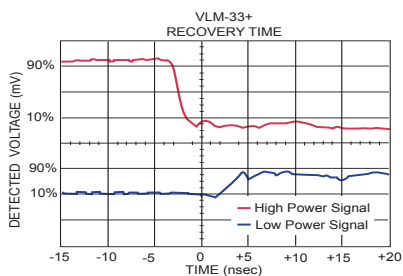
The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Electrical Specifications

Parameter	Condition	Min.	Typ.	Max.	Units
Frequency Range		30		3000	MHz
Insertion Loss in Linear Range	<+5 dBm Input		0.23	0.7	dB
VSWR	<+5 dBm Input		1.05	1.5	:1
Input Power Range	Output Power Limited	+15		+30	dBm
Output Power	In limiting range		+11.5		dBm
Recovery Time	1 watt pulse 50 μsec pw 1kHz duty cycle recovery to within 90% of final value.		10		nsec
Response Time	-30 to +30 dBm input 50 μsec, BW 1 kHz duty cycle		2		nsec
Limiting Δ Output/1dB Δ Input	Input Power Range (dBm)				
	15 to 20		0.2		dB/dB
	20 to 25		0.2		
	25 to 30		0.2		

### Typical Performance Data

Freq. (MHz)	I. Loss in Linear Range (dB)	VSWR in Linear Range (:1)	Power Output (dBm)				Δ Output 1dB Δ Input		
			+15dBm Input	+20dBm Input	+25 dBm Input	+30dBm Input	+15 to +20dBm Input	+20 to +25 dBm Input	+25 to +30 dBm Input
30.00	0.06	1.23	10.58	11.21	11.69	12.33	0.13	0.10	0.13
50.00	0.04	1.13	10.40	10.96	11.36	11.66	0.11	0.08	0.06
70.00	0.04	1.09	10.29	10.83	11.24	11.58	0.11	0.08	0.07
90.00	0.04	1.06	10.37	10.84	11.26	11.91	0.09	0.08	0.13
190.00	0.06	1.02	9.97	10.47	10.85	11.57	0.10	0.08	0.14
415.00	0.10	1.02	9.63	10.07	11.07	13.00	0.09	0.20	0.39
820.00	0.21	1.04	8.92	9.82	12.14	13.57	0.18	0.46	0.29
1200.00	0.19	1.02	8.71	10.41	12.94	11.59	0.34	0.51	-0.27
1600.00	0.23	1.04	8.78	11.43	11.97	11.48	0.53	0.11	-0.10
2000.00	0.26	1.08	9.25	11.52	10.06	10.16	0.45	-0.29	0.02
2200.00	0.28	1.11	9.54	10.78	9.23	9.47	0.25	-0.31	0.05
2400.00	0.30	1.15	9.84	10.06	8.58	9.53	0.04	-0.30	0.19
2600.00	0.32	1.19	10.06	9.37	8.29	9.55	-0.14	-0.22	0.25
2800.00	0.35	1.25	10.06	8.91	8.31	9.91	-0.23	-0.12	0.32
3000.00	0.40	1.32	9.82	7.94	8.25	11.70	-0.38	0.06	0.69



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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ED-13S37/4  
DJ/CP/AM  
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