

**Thin Film Limiter Module  
50 to 4000 MHz**

**L42 / SML42**  
V2

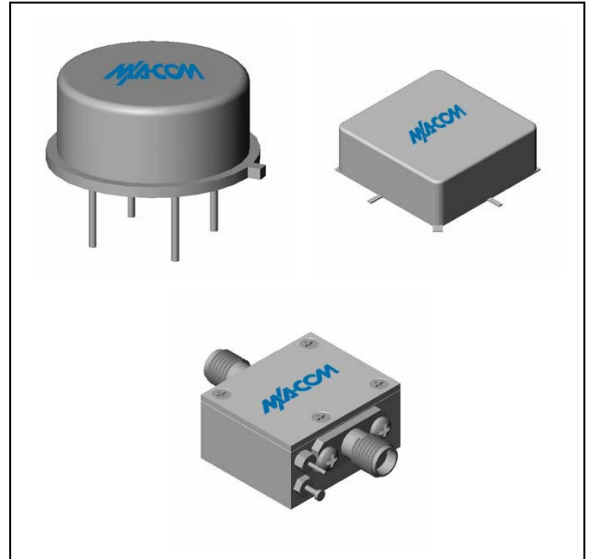
**Features**

- VERY WIDE BANDWIDTH
- GOOD SUPPRESSION OF EVEN ORDER HARMONICS
- LOW INSERTION LOSS: 3.5 dB (TYP.)

**Description**

The L42 signal limiter is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability. This design uses Schottky bridge quad and anti-parallel diodes, which provide consistent limiting levels over a broadband frequency range. Both TO-8 and SMTO-8 packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

**Product Image**



**Ordering Information**

Part Number	Package
L42	TO-8
SML42	Surface Mount
CL42 **	SMA Connectorized

\*\* The connectorized version is not RoHS compliant.

**Electrical Specifications:  $Z_0 = 50\Omega$ ,  $V_{CC} = +15 V_{DC}$**

Parameter	Units	Guaranteed		
		Typical 25°C	0° to 50°C	-54° to +85°C*
Frequency (min)	MHz	5-4000	50-4000	50-4000
Insertion Loss @ $P_{IN} \leq -20$ dBm (max.)	50-3000 MHz	3.5	4.5	5.0
	3000-4000 MHz	4.0	5.0	6.0
Input VSWR (max.) $P_{IN} \leq -10$ dBm, $+10 \leq \text{Bias} \leq +20 V_{dc}$		1.6:1	1.9:1	2.1:1
Output VSWR (max.) $P_{IN} \leq -10$ dBm, $+10 \leq \text{Bias} \leq +20 V_{dc}$		2.0:1	2.3:1	2.5:1
Output Limiting Level @ $P_{IN} = +20$ dBm (max.) $+15 \leq \text{Bias} \leq +20 V_{dc}$	50-2000 MHz	2.5	4.0	4.5
	2000-4000 MHz	6.5	7.0	7.5
Bias Current (max.)	@ +20 Vdc	8.5	9.0	10.0
	@ +15 Vdc	7.0		
	@ +10 Vdc	4.0		

\* Over temperature performance limits for part number CL42, guaranteed from 0°C to +50°C only.

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+25 V
Continuous Input Power	+20 dBm
Short Term Input power (1 minute max.)	400 mW
Peak Power (3 $\mu$ sec max.)	1 W
"S" Series Burn-In Temperature (case)	+125°C

**Limiting and Insertion Loss Characteristics at +25°C**

Bias Voltage	Output Level at Limiting Threshold (1 dB comp.)		
	1000 MHz	Typical 2500 MHz	4000 MHz
+20 Volts	-1.0 dBm	-2.5 dBm	-6.0 dBm
+15 Volts	-2.0 dBm	-4.0 dBm	-6.2 dBm
+10 Volts	-5.5 dBm	-7.0 dBm	-7.8 dBm
+5 Volts	-12.0 dBm	-13.8 dBm	-12.0 dBm

1

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

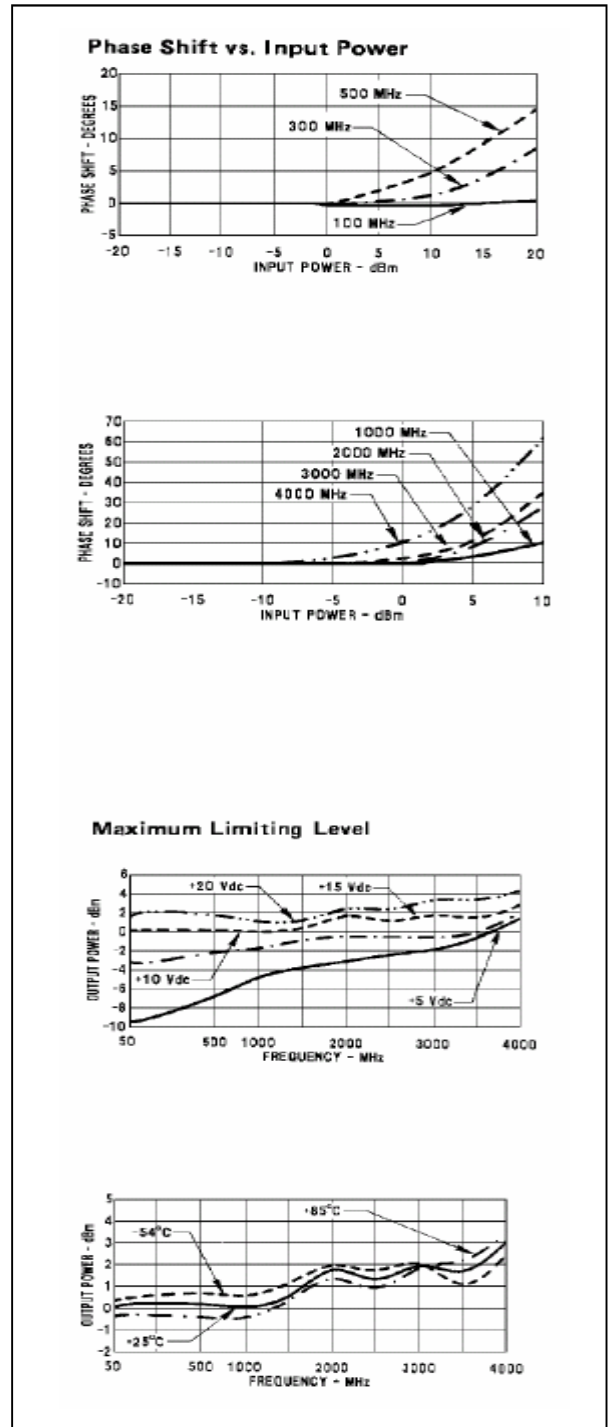
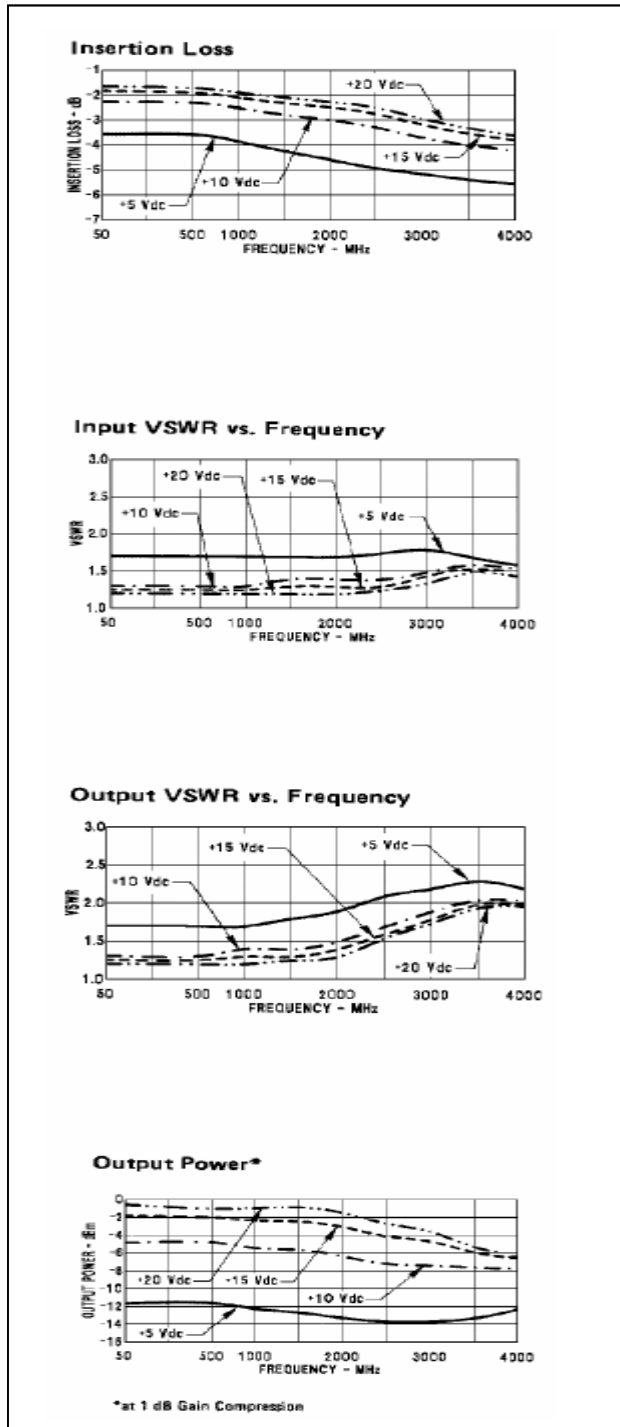
Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

**Thin Film Limiter Module  
50 to 4000 MHz**

**L42 / SML42**

V2

**Typical Performance Frequency Curves at +25°C**



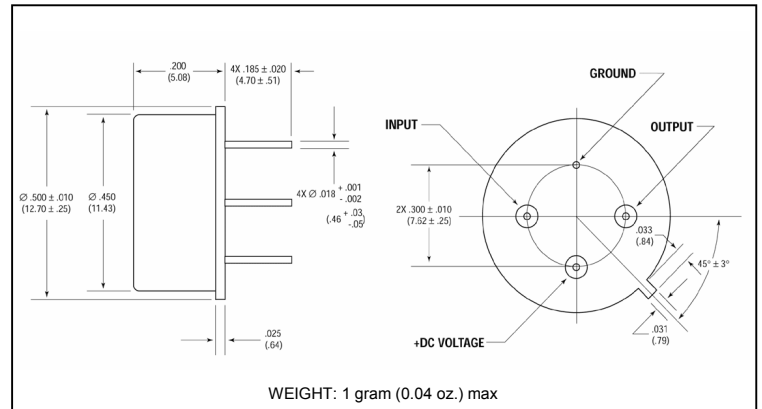
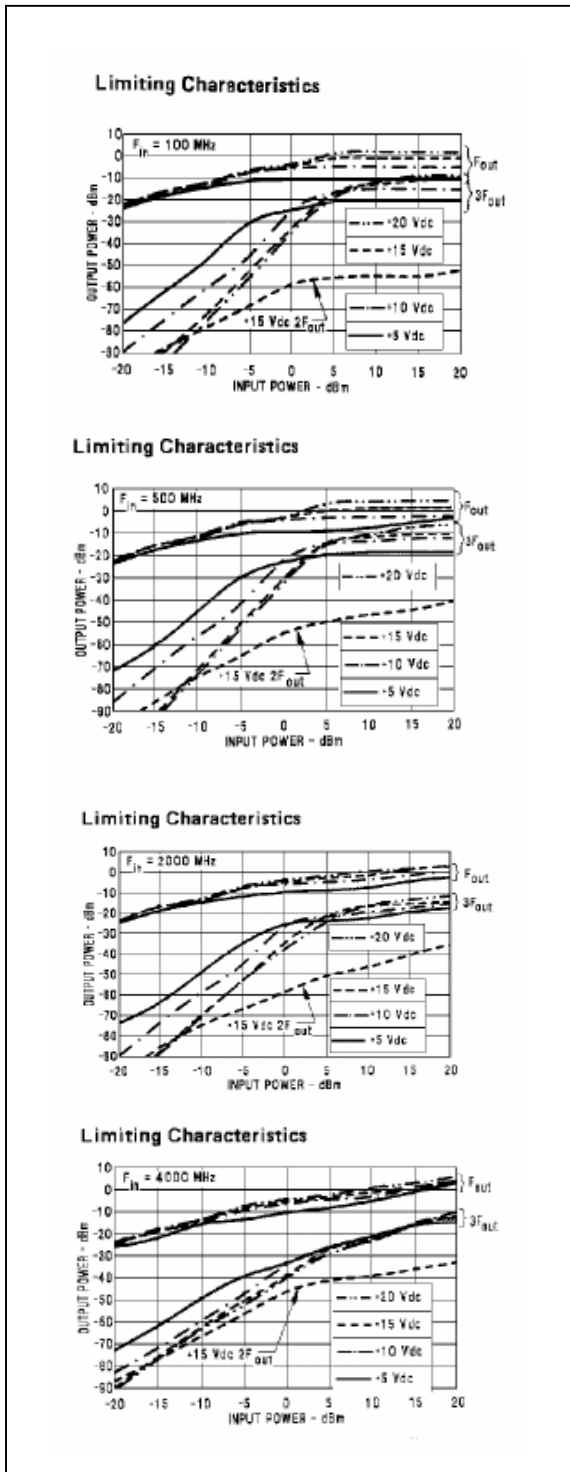
**Thin Film Limiter Module  
50 to 4000 MHz**

**L42 / SML42**

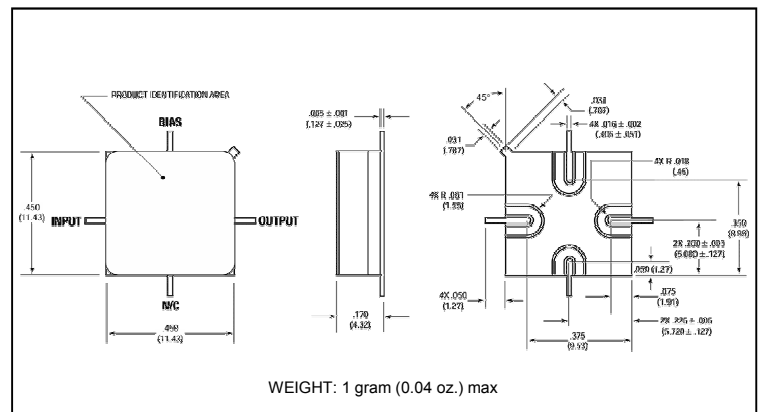
V2

**Typical Power Performance Curves at +25°C**

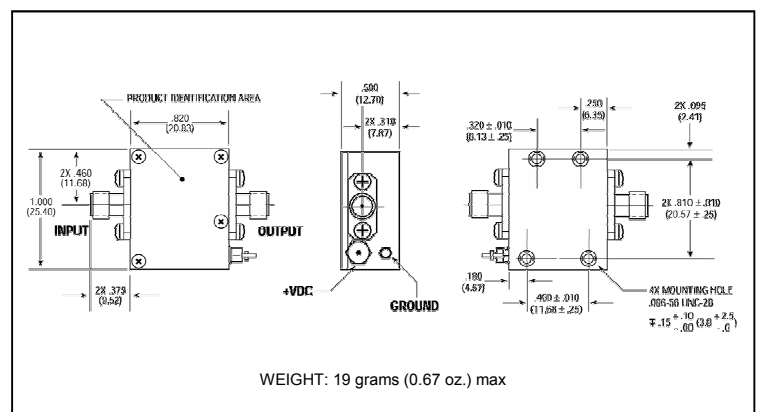
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount \***



**Outline Drawing: SMA Connectorized \***



\* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.