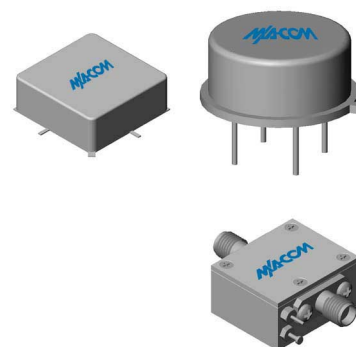




# L42 / SML42

## 50 TO 4000 MHz THIN FILM LIMITER MODULE

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



Specifications (Rev. Date: 3/02)\*

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

\*Measured in a 50-ohm system, guaranteed at 25°C at +15.0Vdc nominal.

### Limiting and Insertion Loss Characteristics (25°C)

Bias Voltage	Output Level at Limiting Threshold (1 dB comp.)		
	1000 MHz	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

### Absolute Maximum Ratings

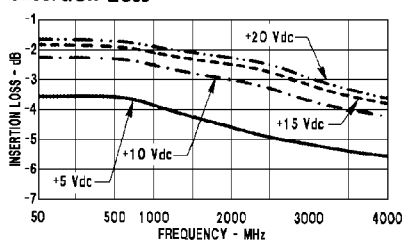
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+25 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term RF Input Power (1 minute max.)	400 mW
Maximum Peak Power (3 µsec max.)	1 W
“S” Series Burn-In Temperature (case)	125°C

### Outline Drawings

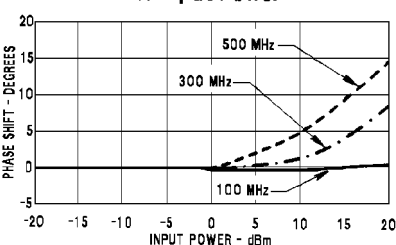
Package	Figure	Model
TO-8	BG	L42
Surface Mount	AA	SML42
SMA Connectorized	CE	CL42

## Typical Performance at 25°C

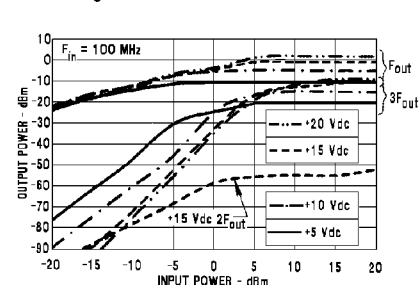
Insertion Loss



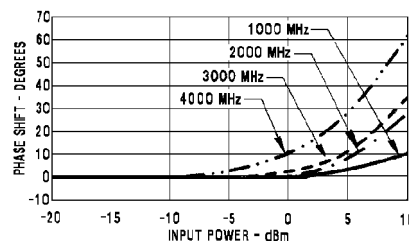
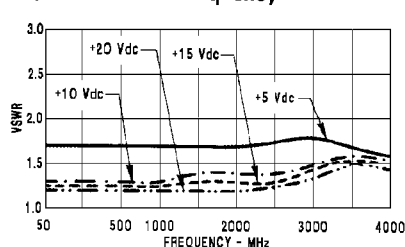
Phase Shift vs. Input Power



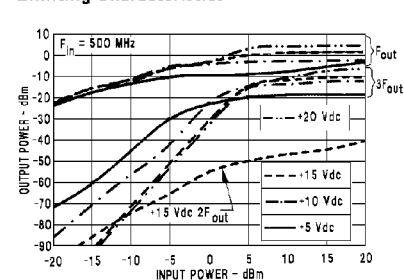
Limiting Characteristics



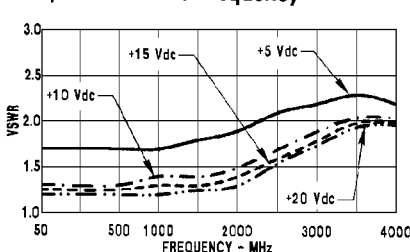
Input VSWR vs. Frequency



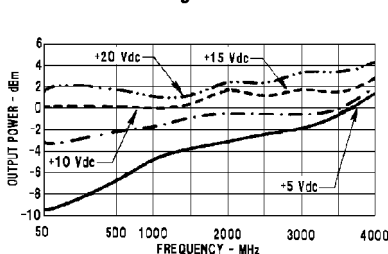
Limiting Characteristics



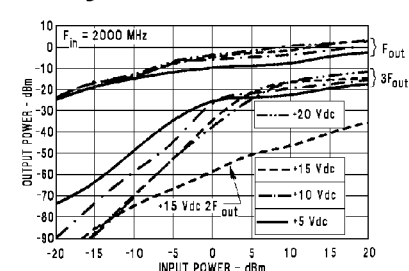
Output VSWR vs. Frequency



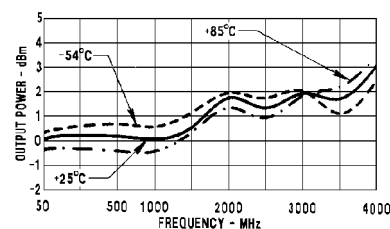
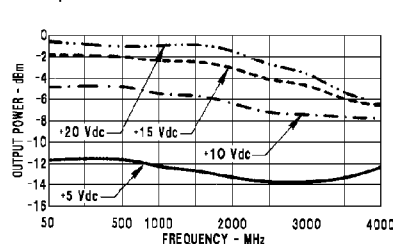
Maximum Limiting Level



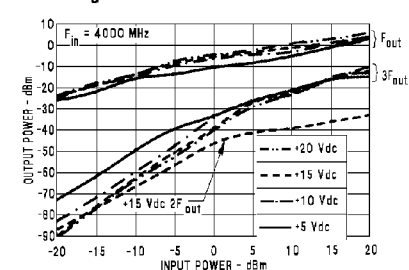
Limiting Characteristics



Output Power\*



Limiting Characteristics



\*at 1 dB Gain Compression

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.