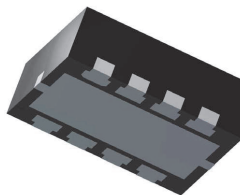


MLSH-020-03

Programmable Limiter



Plastic Molded 8L 3x3 DFN
(Package paddle electrical & thermal ground)

Description

The MLSH-020-03 is a programmable Limiter with adjustable P1dB from 6 dBm to 17 dBm and adjustable leakage power from 13 dBm to 20 dBm. The P1dB and Leakage is programmed with external resistors. It limits up to 20 watts (43 dBm) of power to a minimum of 13 dBm with 0 ohms on pin 7 to ground. It operates from 900 MHz to 3.5 GHz.

Features

- Supports up to 20 watts power
- Low insertion loss 0.5 dB typical up to 2 GHz
- High Isolation 23 dB typical at 40 dBm input power
- **RoHS by design**

Maximum Ratings

RATING	LIMITS	UNITS
Pin	20*	W
T _{op}	-65 to +150	°C
T _{STG}	-55 to +175	°C
T _{SOLDER}	+260 °C per JEDEC STD-J-20C	

* De-rate Linearly to zero at 150°C

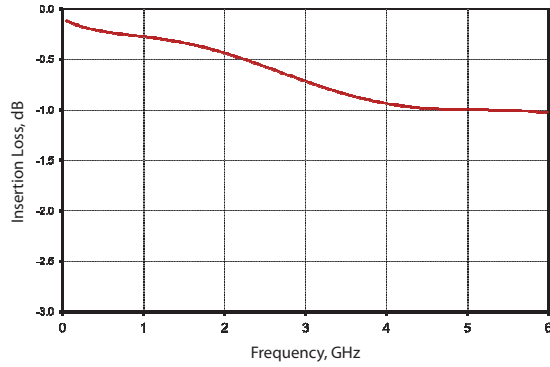
Electrical Characteristics, T_A = +25 °C

SYMBOL	TEST CONDITIONS		MINIMUM	TYPICAL	MAXIMUM	UNITS	
F	Swept Frequency		0.5	–	3.0	GHz	
IL	0.9 – 3 GHz	Pin = -10 dBm	–	0.75	1.0	dB	
IRL	0.9 – 3 GHz	Pin = -10 dBm	13	15	–	dB	
ORL	0.9 – 3 GHz	Pin = -10 dBm	13	15	–	dB	
P _{Leak} 1		Pin = 40 dBm	Programmable	12	-	22	dBm
P _{1dB} 1			Programmable	5	–	18	dBm
P _{cw} 2	F = 0.5 – 3.0 GHz		–	–	43	dBm	

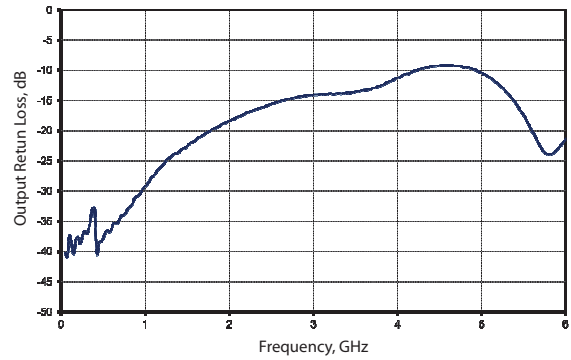


Typical RF Performance at $T_A = 25\text{ }^\circ\text{C}$, $Z_o = 50\ \Omega$, -10 dBm Small Signal

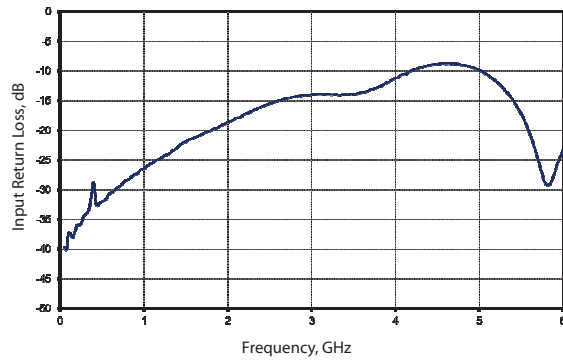
Insertion Loss



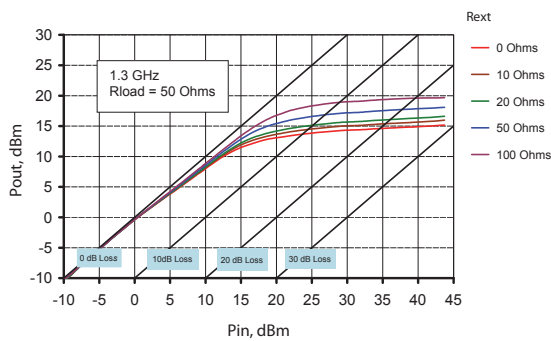
Output Return Loss



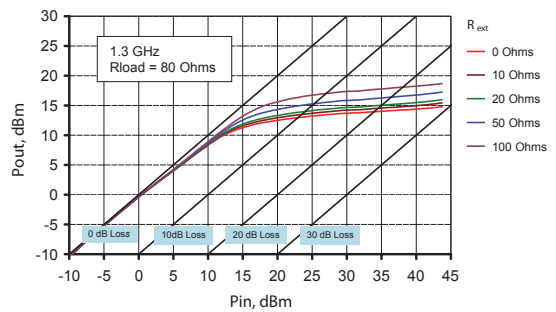
Input Return Loss



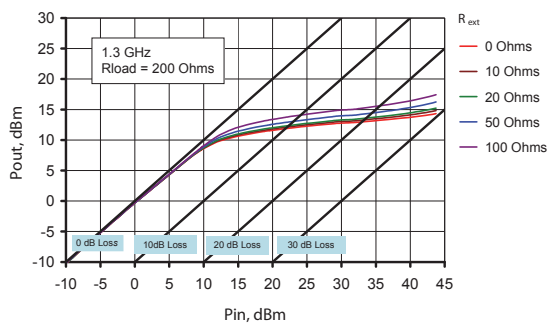
Pout Vs Pin



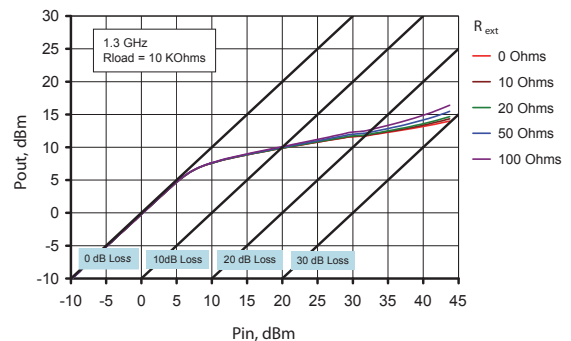
Pout vs Pin



Pout vs Pin



Pout vs Pin

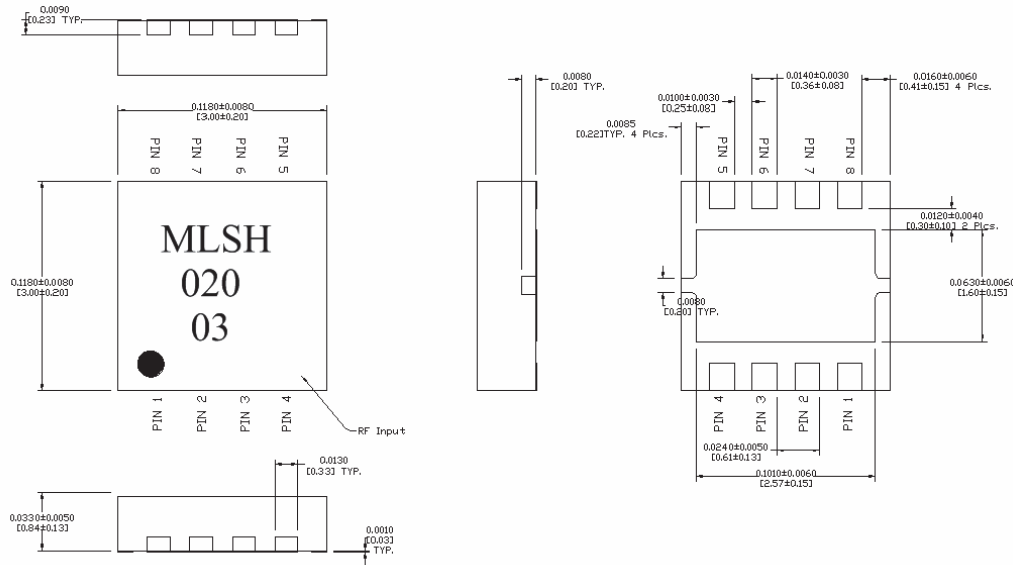


MLSH-020-03



Package Outline

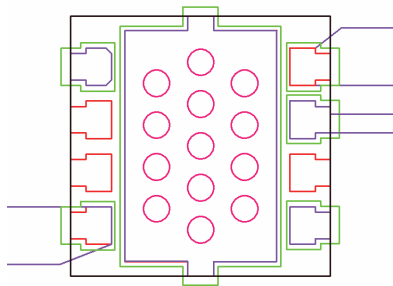
8L 3030 DFN package outline



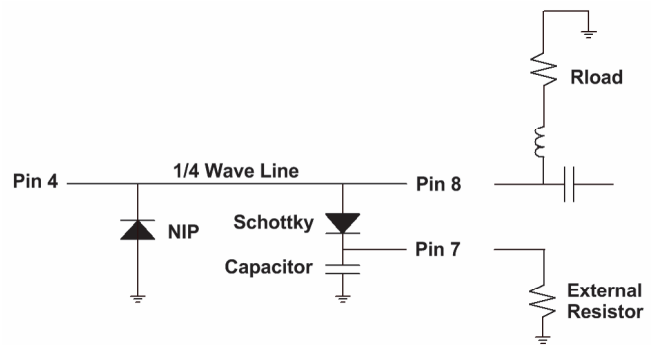
Printed Circuit Board Layout

SOLDER MASK SHOULD PROVIDE 60µm CLEARANCE BETWEEN COPPER PAD AND SOLDERMASK AND IT SHOULD EXTEND OUT 5 MILS BEYOND THE OUTSIDE EDGE OF PKG. ROUNDED PKG PADS SHOULD HAVE MATCHING ROUNDED SOLDER MASK.

USE CIRCLES OR SQUARES FOR THE THERMAL LAND STENCIL SUCH THAT ONLY GET 50 TO 80% SOLDER PASTE COVERAGE.



Schematic Diagram and Pin Out



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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.