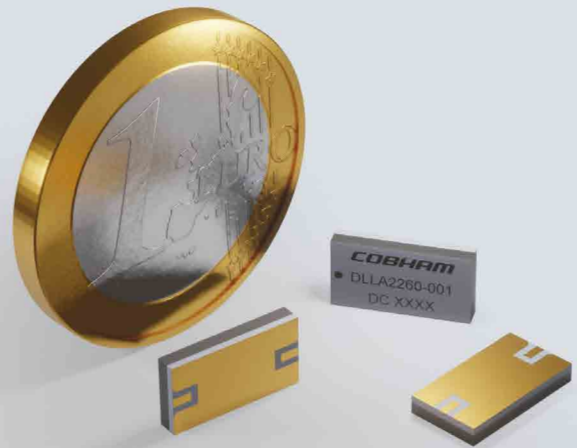


SMD L Band Limiter

DLLA2260-001

Features

- Frequency Range: 1.2 to 1.4GHz
- High Peak Power Handling: 55dBm
- CW Power Handling: 48dBm
- Low Flat Leakage: 17dBm typical
- Low Insertion Loss: 0.35dB typical
- No external DC bias required
- High Reliability Silicon PIN diodes
- Integrated DC block and DC return
- Aluminum Nitride (AlN) SMD Package
- Compact size: 9.8mm x 5.3mm x 2mm
- ROHS compliant



Description

The DLLA2260-001 is a high power, surface mount, PIN diode limiter without DC bias but with internal loop power detection. The DLLA2260-001 operates from 1.2 to 1.4 GHz with low Insertion Loss and provides high power handling capability up to 316W (55dBm) incident long pulse mode power (1.2ms, duty cycle 10%) with a low flat leakage and low spike leakage.

Applications

The DLLA2260-001 is ideal for high RF power receiver protection in commercial and military related markets.

For high reliability purposes, this device includes PIN diodes manufactured with our proprietary technology based on mesa design and glass or oxide passivation.

According to MIL-HDBK-217F, the total discrete components have a calculated MTTF of 3.10^6 Hours. In taking in account the application and the environment, the complete hybrid device has a MTTF of 2.10^5 Hours in the case of a use in a grounded system.

COBHAM

SMD L Band Limiter

DLLA2260-001

Absolute Maximum Ratings @Z₀=50 Ω

Parameter	Absolute maximum
Operating temperature	- 55°C, +85°C
Storage temperature	- 65°C, +125°C
Junction Temperature (Tj)	175°C
Mounting temperature (20s Max)	260°C
Input power @ 1.2ms pulse, 10% duty cycle,	55dBm ^[1]

Note: any operation above these parameters may cause permanent damages.

[1] On infinite heatsink.

Ordering Information

Part number	Packing
DLLA2260-001	Bulk ^[2]
DLLA2260-001T1	Tape & Reel per 1000 ^[3]

[2] For quantities other than 1000 in T&R, contact factory.

[3] Reel: 180mm, tape: 16mm

Electrical Specification @Z₀=50 Ω, TA=+25°C

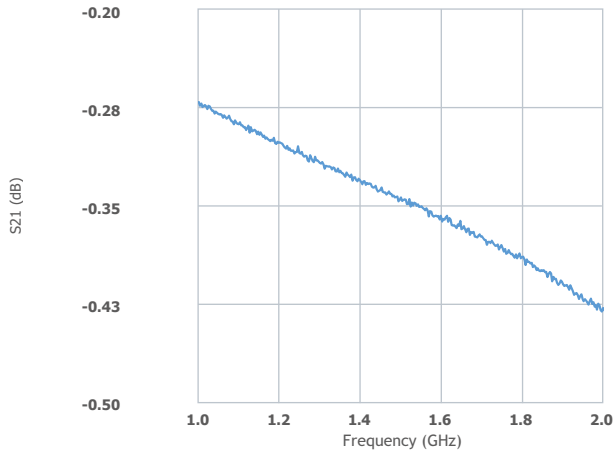
Parameter	Test Conditions	Min.	Typ.	Max.	Units
Frequency		1.0	---	1.8	GHz
Insertion Loss	0dBm, 1.2 – 1.4GHz		0.33	0.4	dB
Return Loss	0dBm, 1.2 – 1.4GHz	-21	-22		dB
Peak incident Power	1.2ms pulse, 10% duty cycle, 1.3GHz			55	dBm
Flat leakage Power	1.2ms pulse, 10% duty cycle, 1.3GHz		17		dBm
Spike leakage Power	1.2ms pulse, 10% duty cycle, 1.3GHz		23		dBm
Spike leakage time	1.2ms pulse, 10% duty cycle, 1.3GHz		50		ns
1dB Recovery time	1.2ms pulse, 10% duty cycle, 1.3GHz		2		µs

SMD L Band Limiter

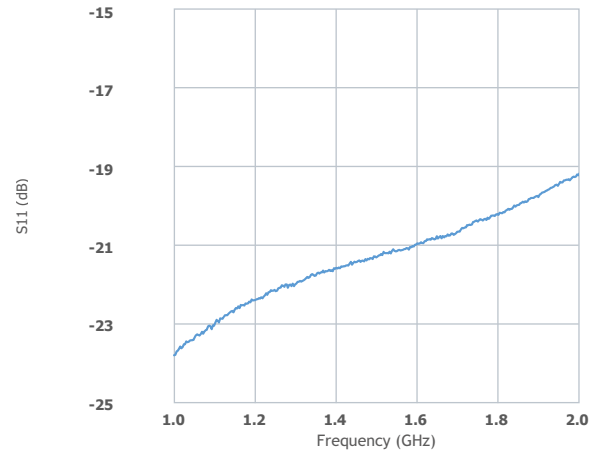
DLA2260-001

Typical Performances (@Z0=50 Ω, TA=+25°C)

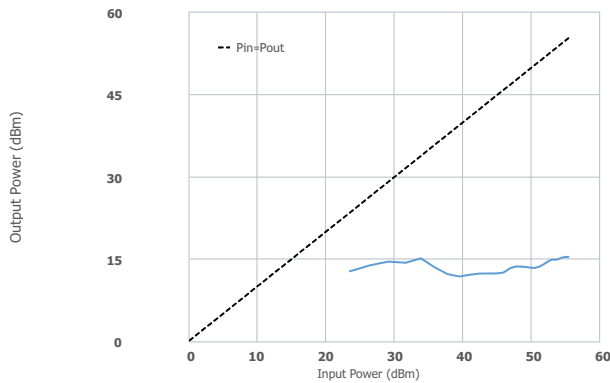
- Insertion Loss vs. Frequency



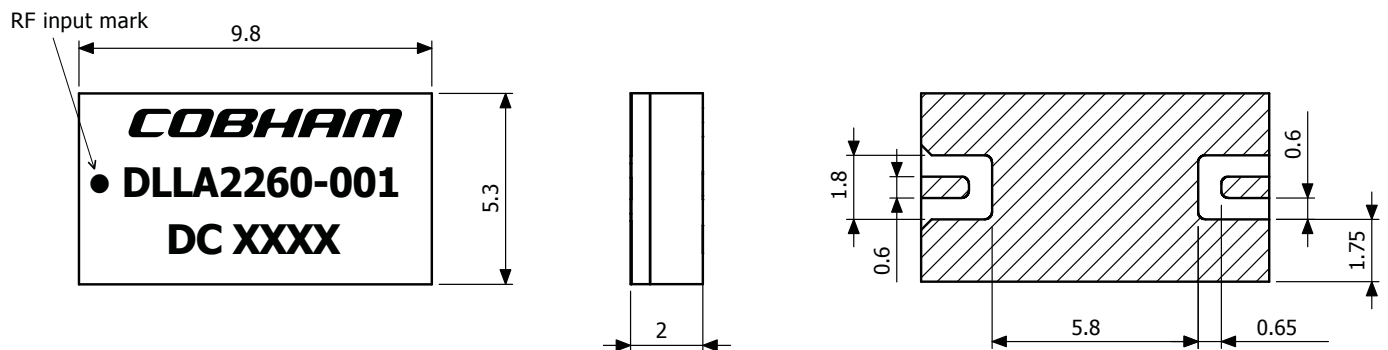
- Return Loss vs. Frequency



- Output Power vs. Pulsed Input Power 1.2ms pulse, 10% duty cycle, 1.3GHz



Limiter Outline Drawing



Notes: Typical Dimension Unit: millimetre (mm) ±0.1mm
Thin gold termination

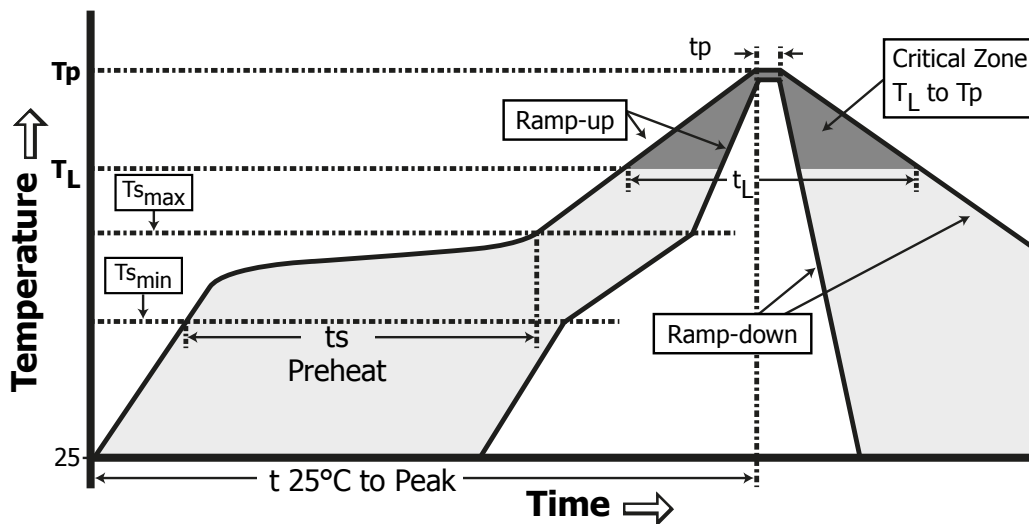
SMD L Band Limiter

DLA2260-001

Solder Reflow Time-Temperature Function:

Profile Feature	Sn-Pb Eutectic Assembly	Pb Free Assembly
Average Ramp-up rate ($T_{s_{max}}$ to T_p)	3°C/second max	3°C/second max
Preheat : <ul style="list-style-type: none"> • Temperature Min ($T_{s_{min}}$) • Temperature Max ($T_{s_{max}}$) • Time ($t_{s_{min}}$ to $t_{s_{max}}$) 	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above : <ul style="list-style-type: none"> • Temperature (T_L) • Time (t_L) 	183°C 60-150 seconds	217°C 60-150 seconds
Peak/Classification Temperature (T_p)	225 +0 / -5°C	260 +0 / -5°C
Time within 5°C of actual Peak temperature (t_p)	10-30 seconds	20 seconds
Ramp-Down Rate	6°C/second max	6°C/second max
Time 25°C to Peak Temperature	6 minutes max	6 minutes max

Notes: All temperatures refer to topside of the package measured on the package body surface.
 Compatible with JEDEC Moisture Sensitivity Level 1 requirements.



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