SMD S band Limiter

DLSA2340-001

Features

- Frequency Range: 2.7 to 3.4GHz
- High Peak Power Handling: 53dBm
- CW Power handling : 46dBm
- Low Flat Leakage: 17dBm
- Low Insertion Loss: 0.8dB
- No external DC bias required
- High Rel. Silicon PIN diodes
- Integrated DC block and DC return
- Aluminum Nitride (AlN) Package
- Compact 9.8mm x 5.3mm x 2mm SMD
- ROHS compliant

RoHS Compliant

Description

The DLSA2340-001 is a high power, surface mount, PIN diode limiter without DC bias but with internal loop power detection. The DLSA2340-001 operates from 2.7 to 3.4GHz with low Insertion Loss and provides high power handling capability up to 200W (53dBm) incident long pulse mode power (500µs, duty cycle 25%) with a low flat leakage and low spike leakage.

Applications

The DLSA2340-001 is ideal for high RF power receiver protection in commercial and military related markets. For high reliability purposes, this device includes PIN diodes made 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.

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Absolute Maximum Ratings @Z_0=50 Ω, T_A=+25°C

Parameter	Absolute maximum
Operating temperature	- 55°C, +85°C
Storage temperature	- 65°C, +150°C
Junction Temperature (Tj)	175°C
Mounting temperature (20s Max)	260°C
Peak incident Power @500µs pulse, 25% duty cycle	53dBm [1]

Note: any operation above these parameters may cause permanent damages.
[1] On infinite heatsink.

Ordering Information

Part number	Packing
DLSA2340-001	Bulk [2]
DLSA2340-001T1	Tape & Reel per 1000p [3]

[2] For quantities other than 1000 in T&R, see factory for conditions.
[3] Reel: 180cm, tape: 16mm.

Electrical Specification @Z_0=50 Ω, T_A=+25°C

| Parameter	Test Conditions	Min.	Typ.	Max.	Units
Frequency		2.7	---	3.4	GHz
Insertion Loss	0dBm, 2.7 – 3.4GHz		0.8		dB
Return Loss	0dBm, 2.7 – 3.4GHz		14.5		dB
Peak incident Power	500µs pulse, 25% duty cycle, 3.4GHz			53	dBm
Flat leakage Power	500µs pulse, 25% duty cycle, 3.4GHz		17	20	dBm
Spike leakage Power	500µs pulse, 25% duty cycle, 3.4GHz		25		dBm
Spike leakage time	500µs pulse, 25% duty cycle, 3.4GHz		50	200	ns
1dB Recovery time	500µs pulse, 25% duty cycle, 3.4GHz		2		µs

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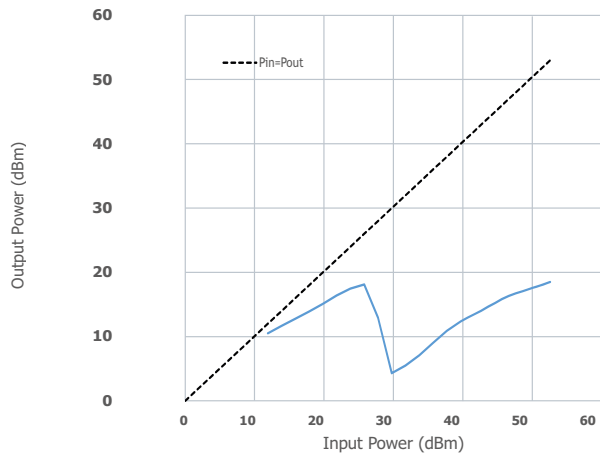## Typical Performances (@Z_0=50 Ω, T_A=+25°C)

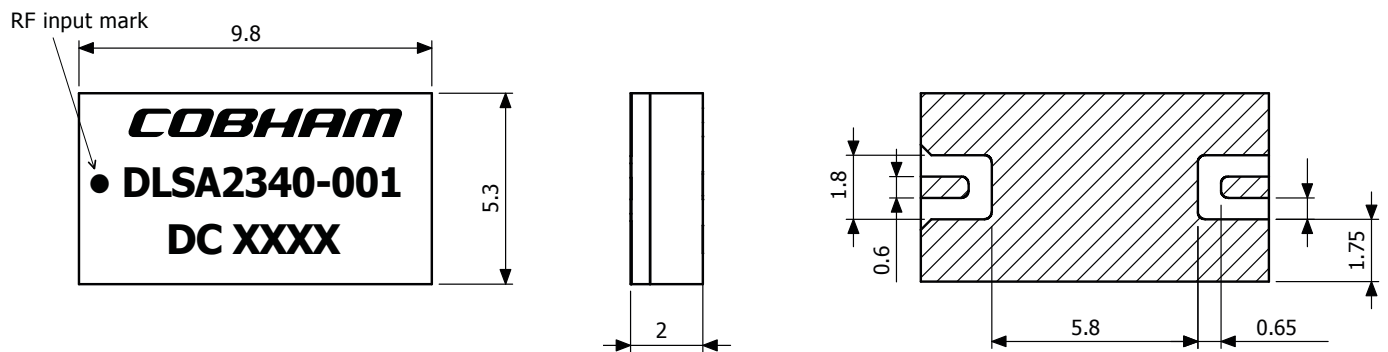• Insertion Loss vs. Frequency
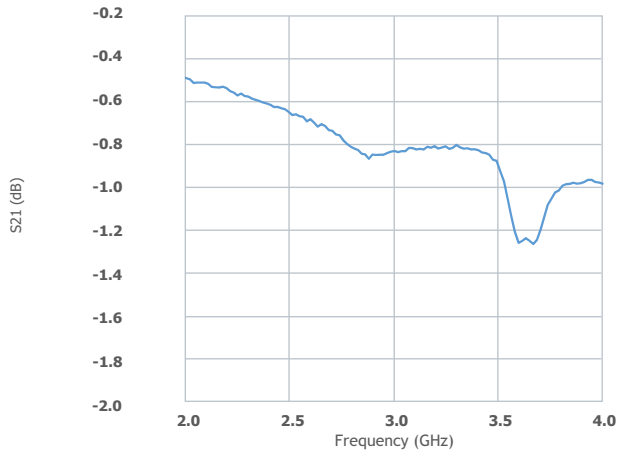
• Input Return Loss vs Frequency
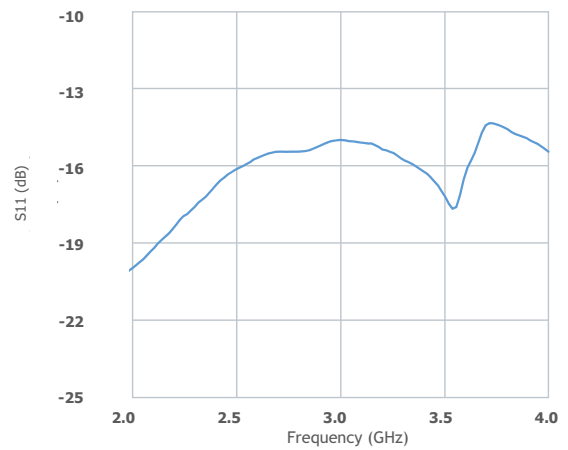
• Output Power vs. Pulsed Input Power (500μs Pulse, 25% Duty Cycle, 3.4GHz)

Limiter Outline Drawing

Notes: Typical Dimension Unit: millimetre (mm) ±0.1mm
        Thin gold termination
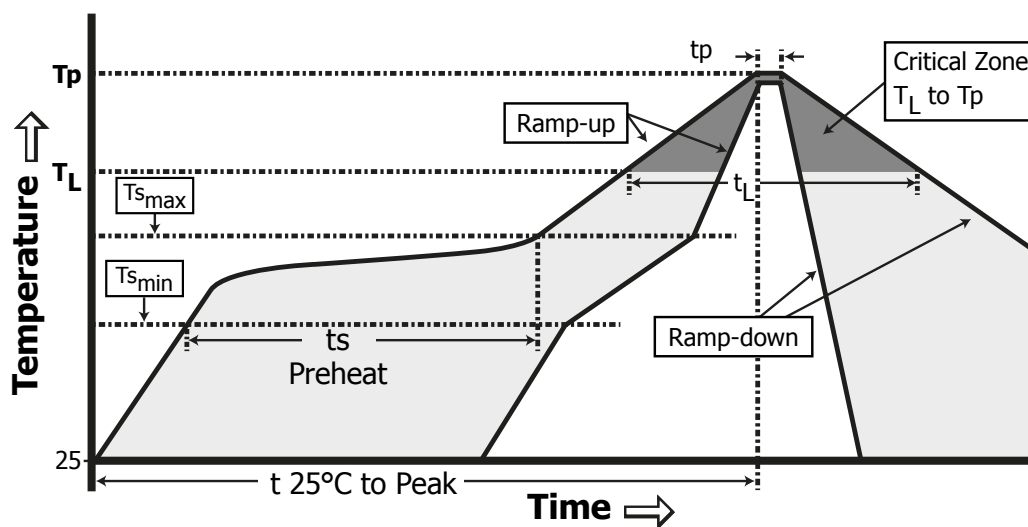
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Solder Re-Flow Time-Temperature Function:

Profile Feature	Sn-Pb Eutectic Assembly	Pb Free Assembly
Average Ramp-up rate (Ts_{max} to Tp)	3°C/second max	3°C/second max
Preheat : • Temperature Min (Ts_{min}) • Temperature Max (Ts_{max}) • Time (ts_{min} to ts_{max})	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above : • Temperature (T_L) • Time (t_L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak/Classification Temperature (Tp)	225 +0 / -5°C	260 +0 / -5°C
Time within 5°C of actual Peak temperature (tp)	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 temperature refer to topside of the package measured on the package body surface.
Compatible with JEDEC Moisture Sensitivity Level 1 requirements.

For further information please contact
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