www.linwave.co.uk

Linwave DC1279F-T77 Gunn Diode 76-78GHz

LW36-701122

Features

- Excellent 'cold start' performance at -40°C
- Low change in frequency with temperature (see fig.3)
- Customised dF/dV specification available (see note 1)
- Low FM noise (see table)
- Increased efficiency compared with other GaAs Gunn devices (see table)
- Hermetic packaging
- Range of output powers; customised specification available
- Proven high reliability
- Repeatable performance in standard cavities
- Variety of reliability assurance testing available
- All products 100% millimetre-wave tested

Description

Second harmonic Gunn operation diode, offering repeatable and cost-effective millimetre-wave power generation, cavity to cavity.

Applications

The unique 'Graded Gap' structure available from Linwave Technology is ideal for automotive adaptive cruise control systems. It is used in CW and pulsed mode operation, in a wide range of environmental conditions.

Full application notes are available.

Data sheet Iss 02, dated 16/08/19 DS00-701122-02, No. 4264

For price, delivery and to place orders please contact
Linwave Technology Ltd, Marlin Building, Sadler Road, Lincoln, LN6 3RS
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Electrical Specification (at T_{amb} = 23°C +/- 5°C unless stated) (see note 1)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output Power (see note 2)	P_O	Typical response in standard test cavity	-	50	85	mW
Input Voltage	V_{IN}	Running at 76.5 GHz, 50 mW in standard cavity	-	5	-	V
Threshold Voltage	V_{TH}	Typical response in standard cavity	-	1.8	-	V
Threshold Current at -40 °C	I_{TH}	Measured at V_{TH} as voltage increases steadily from zero	-	900	-	mA
Operating Current (see note 2)	I_{OP}	Average with constant voltage supply. 1. Running at 76.5 GHz, 50 mW in standard cavity 2. Running at 76.5 GHz, 85 mW in standard cavity	- -	650 825	- -	mA mA
Operating Temperature	T_{OP}	-	-40	-	+120	°C
Efficiency	Z	Typical response in standard cavity at peak power	-	1.6	-	%
FM Noise	N_{FM}	Typical response in standard cavity at peak power and 100 kHz offset	-	-85	-	dBc/Hz

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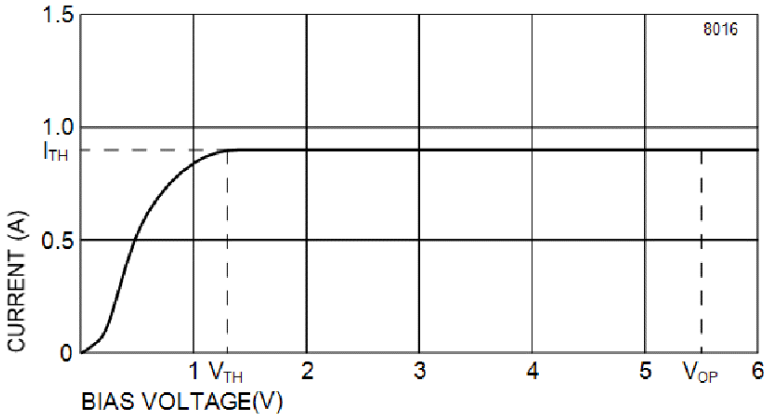

Fig. 1 Typical start-up performance of the graded gap diode at 25 °C

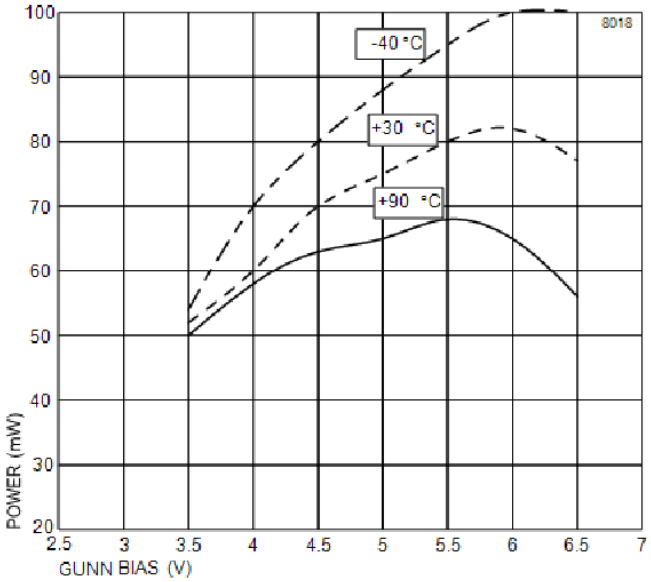

Fig. 2 Typical power characteristic

NOTES

1. The parameters indicated in the table can be customised to the user's requirement. The table shows typical values that can be achieved in a standard test cavity. Other variations are possible; please contact the Sales Department for further details.
2. If the current is increased to the level shown, then the maximum output power shown is possible in an optimally tuned cavity. Please contact the Sales Department to discuss power/current requirements; there may be trade-offs with other parameters shown.

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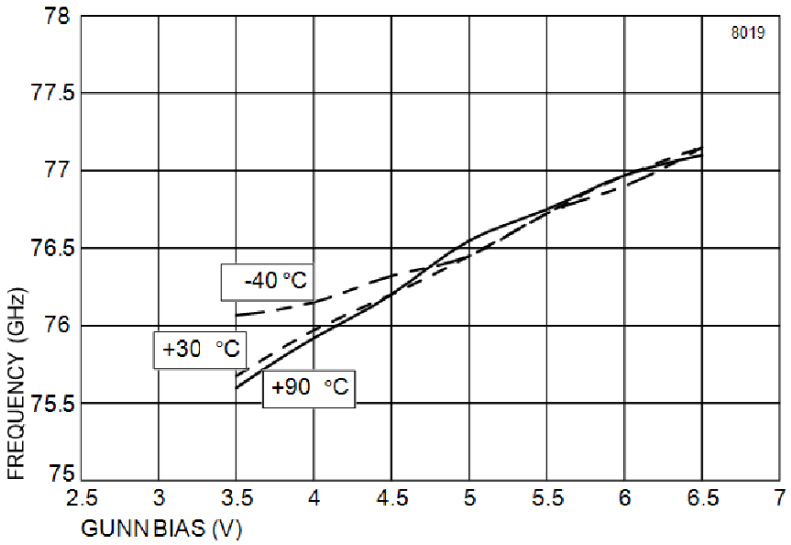
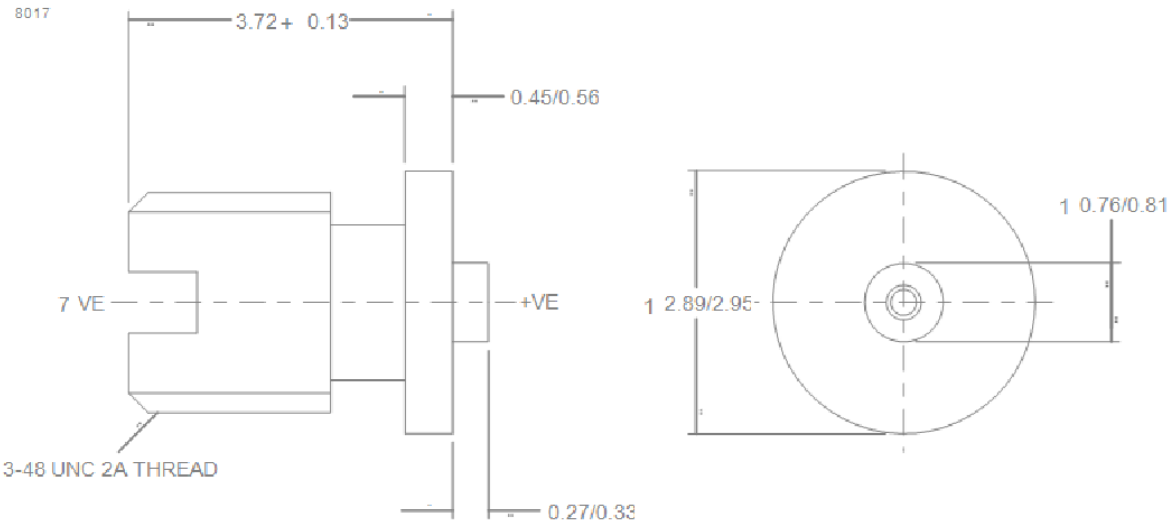


Fig. 3 Typical frequency characteristic

Outline (All Dimensions in millimetres)



Linwave reserves the right to make changes, without notice, in the products, including circuits, standard cells, and/or software, described or contained herein in order to improve design and/or performance.

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