

## 10.70-11.70 GHz 8-Watt Internally-Matched Power FET

### FEATURES

- 10.70 – 11.70 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +39.0 dBm Output Power at 1dB Compression
- 6 dB Power Gain at 1dB Compression
- 30% Power Added Efficiency
- -46 dBc IM3 at  $P_o = 28.5$  dBm SCL
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and  $R_{TH}$



### DESCRIPTION

The EIC1011-8 is a high power, highly linear, single stage MFET amplifier in a flange mount package. This amplifier features Excelics' unique MESFET transistor technology.



Caution! ESD sensitive device.

### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

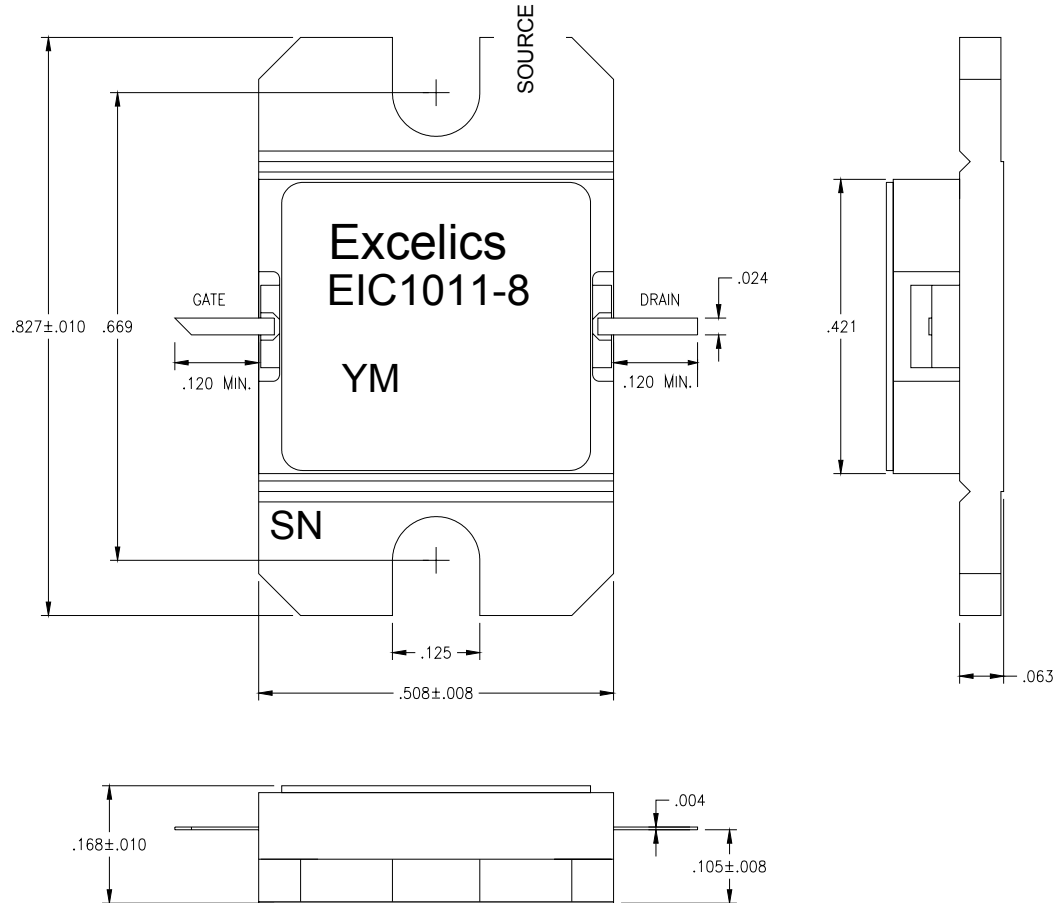
SYMBOL	PARAMETERS/TEST CONDITIONS <sup>1</sup>	MIN	TYP	MAX	UNITS
$P_{1dB}$	Output Power at 1dB Compression $f = 10.7-11.7\text{GHz}$ $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 2200\text{mA}$	38.5	39.0		dBm
$G_{1dB}$	Gain at 1dB Compression $f = 10.7-11.7\text{GHz}$ $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 2200\text{mA}$	5.0	6.0		dB
$\Delta G$	Gain Flatness $f = 10.7-11.7\text{GHz}$ $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 2200\text{mA}$			$\pm 0.6$	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 2200\text{mA}$ $f = 10.7-11.7\text{GHz}$		30		%
$I_{d1dB}$	Drain Current at 1dB Compression $f = 10.7-11.7\text{GHz}$		2200	2600	mA
IM3	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 28.5\text{ dBm S.C.L}^2$ $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 65\% IDSS$ $f = 11.70\text{ GHz}$	-43	-46		dBc
$I_{DSS}$	Saturated Drain Current $V_{DS} = 3\text{ V}$ , $V_{GS} = 0\text{ V}$		4000	4500	mA
$V_P$	Pinch-off Voltage $V_{DS} = 3\text{ V}$ , $I_{DS} = 40\text{ mA}$		-2.5	-4.0	V
$R_{TH}$	Thermal Resistance <sup>3</sup>		3.5	4.0	$^\circ\text{C/W}$

Notes:

1. Tested with 100 Ohm gate resistor.
2. S.C.L. = Single Carrier Level.
3. Overall  $R_{th}$  depends on case mounting.

## PACKAGE OUTLINE

Dimensions in inches, Tolerance  $\pm .005$  unless otherwise specified



## ORDERING INFORMATION

Part Number	Grade <sup>1</sup>	f <sub>Test</sub> (GHz)	P <sub>1dB</sub> (min)	IM <sub>3</sub> (min) <sup>2</sup>
EIC1011-8	Industrial	10.70-11.70 GHz	38.5	-43

Notes: 1. Contact factory for military and hi-rel grades.  
2. Exact test conditions are specified in "Electrical Characteristics" table.