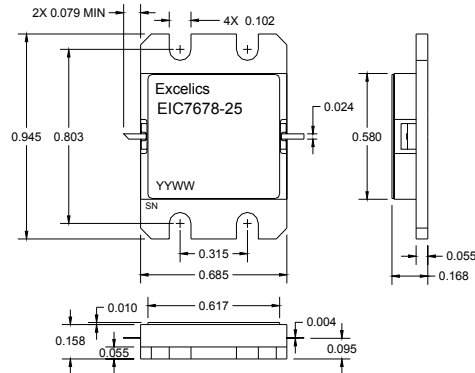


### FEATURES

- 7.60– 7.80GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +44.5 dBm Output Power at 1dB Compression
- 8.5 dB Power Gain at 1dB Compression
- 30% Power Added Efficiency
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and  $R_{TH}$



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



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS <sup>1)</sup>	MIN	TYP	MAX	UNITS
$P_{1dB}$	Output Power at 1dB Compression $f = 7.60\text{-}7.80\text{GHz}$ $V_{DS} = 10\text{ V}, I_{DSQ} \approx 6500\text{mA}$	43.5	44.5		dBm
$G_{1dB}$	Gain at 1dB Compression $f = 7.60\text{-}7.80\text{GHz}$ $V_{DS} = 10\text{ V}, I_{DSQ} \approx 6500\text{mA}$	7.5	8.5		dB
$\Delta G$	Gain Flatness $f = 7.60\text{-}7.80\text{GHz}$ $V_{DS} = 10\text{ V}, I_{DSQ} \approx 6500\text{mA}$			$\pm 0.6$	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}, I_{DSQ} \approx 6500\text{mA}$ $f = 7.60\text{-}7.80\text{GHz}$		30		%
$I_{d1dB}$	Drain Current at 1dB Compression $f = 7.60\text{-}7.80\text{GHz}$		6800	7700	mA
$I_{DSS}$	Saturated Drain Current $V_{DS} = 3\text{ V}, V_{GS} = 0\text{ V}$		11	13	A
$V_P$	Pinch-off Voltage $V_{DS} = 3\text{ V}, I_{DS} = 130\text{ mA}$		-2.5	-4.0	V
$R_{TH}$	Thermal Resistance <sup>2)</sup>		1.3	1.6	$^\circ\text{C/W}$

Note: 1) Tested with 50 Ohm gate resistor.

2) Overall  $R_{th}$  depends on case mounting.

### MAXIMUM RATING AT $25^\circ\text{C}$ <sup>1,2</sup>

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
$V_{ds}$	Drain-Source Voltage	15	10V
$V_{gs}$	Gate-Source Voltage	-5	-4V
$P_{in}$	Input Power	38.5 dBm	@ 3dB Compression
$T_{ch}$	Channel Temperature	175 $^\circ\text{C}$	175 $^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65 to +175 $^\circ\text{C}$	-65 to +175 $^\circ\text{C}$
$P_t$	Total Power Dissipation	93W	93W

Note: 1. Exceeding any of the above ratings may result in permanent damage.

2. Exceeding any of the above ratings may reduce MTTF below design goals.

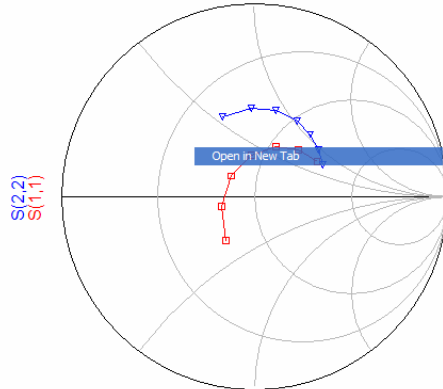
Specifications are subject to change without notice.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085

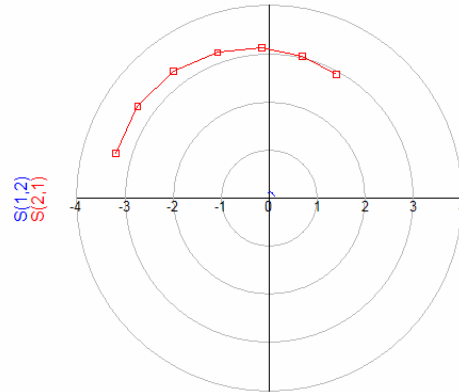
Phone: 408-737-1711 Fax: 408-737-1868 Web: [www.excelics.com](http://www.excelics.com)

page 1 of 2

Revised July 2008



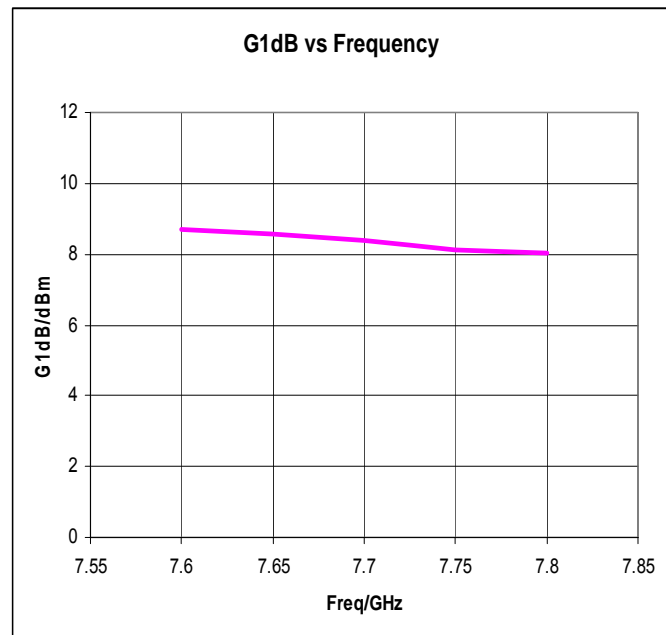
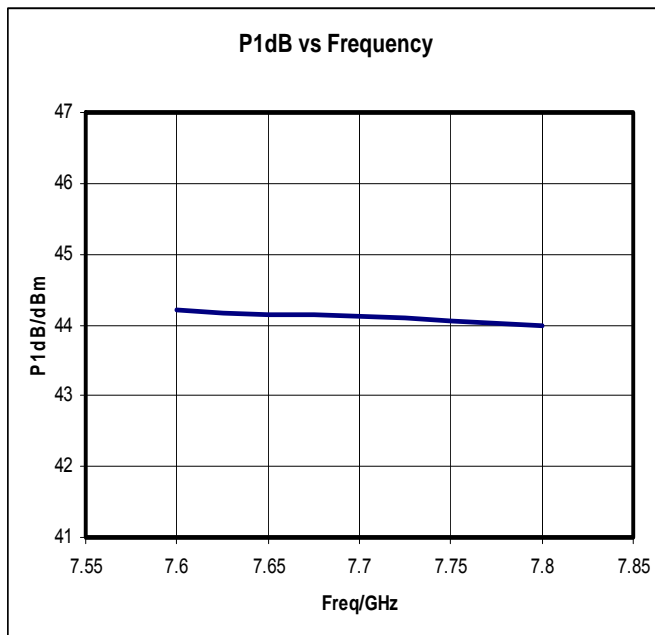
freq (7.400GHz to 8.000GHz)



freq (7.400GHz to 8.000GHz)

freq	S(1,1)	S(1,2)	S(2,1)	S(2,2)
7.400GHz	0.273 / -123.000	0.108 / 109.460	3.304 / 163.930	0.444 / 112.100
7.500GHz	0.178 / -162.590	0.112 / 88.760	3.323 / 145.280	0.456 / 92.010
7.600GHz	0.160 / 138.670	0.112 / 71.770	3.293 / 127.270	0.459 / 76.170
7.700GHz	0.213 / 94.000	0.113 / 52.960	3.191 / 109.640	0.447 / 60.600
7.800GHz	0.280 / 67.120	0.112 / 36.430	3.102 / 92.950	0.432 / 47.940
7.900GHz	0.331 / 47.200	0.109 / 20.070	3.001 / 76.810	0.408 / 36.210

### S-PARAMETERS

 Measured at V<sub>ds</sub>=10V, I<sub>DSQ</sub>=6500mA


Specifications are subject to change without notice.