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Preliminary

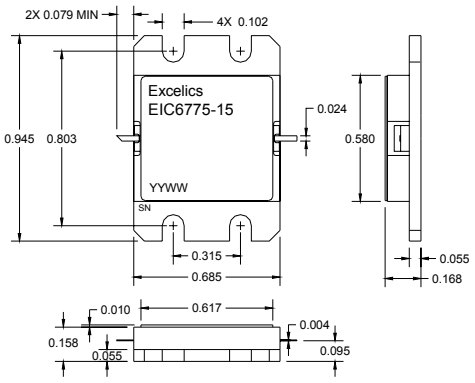
EIC6775-15

ISSUED 10/08/2008

6.70-7.50 GHz 15-Watt Internally Matched Power FET

FEATURES

- 6.70– 7.50GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +42.0 dBm Output Power at 1dB Compression
- 7.5 dB Power Gain at 1dB Compression
- 31% Power Added Efficiency
- 100% Tested for DC, RF, and R_{TH}



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 6.70-7.50GHz V_{DS} = 10 V, I_{DSQ} ≈ 4500mA	41.0	42.0		dBm
G_{1dB}	Gain at 1dB Compression f = 6.70-7.50GHz V_{DS} = 10 V, I_{DSQ} ≈ 4500mA	7.0	8.0		dB
ΔG	Gain Flatness f = 6.70-7.50GHz V_{DS} = 10 V, I_{DSQ} ≈ 4500mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 10 V, I_{DSQ} ≈ 4500mA f = 6.70-7.50GHz		31		%
Id_{1dB}	Drain Current at 1dB Compression f = 6.70-7.50GHz		4600	5200	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		8500	11000	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 85 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance[2]		2.0	2.5	°C/W

Note: 1. Tested with 50 Ohm gate resistor.
2. Overall Rth depends on case mounting.

ABSOLUTE MAXIMUM RATING[1,2]

SYMBOLS	PARAMETERS	ABSOLUTE[1]	CONTINUOUS[2]
Vds	Drain-Source Voltage	15	10V
Vgs	Gate-Source Voltage	-5	-3V
Igsf	Forward Gate Current	189.9mA	63.3mA
Igsr	Reserve Gate Current	-10.6mA	-31.7mA
Pin	Input Power	41.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	60W	60W

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.

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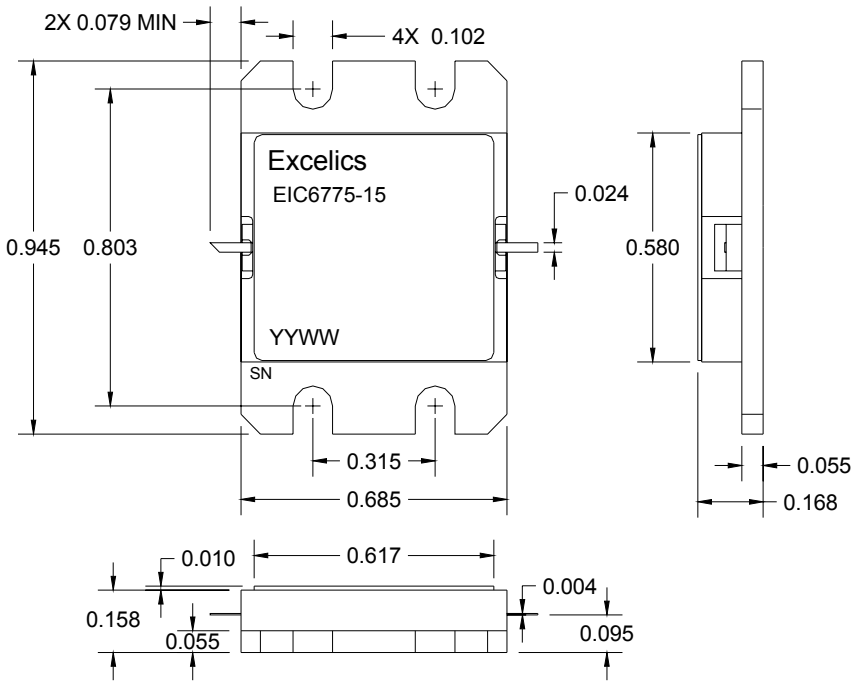
PACKAGES OUTLINE (Hermetic)



Note: Dimensions in inches, Tolerance ± .005 unless otherwise specified

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