



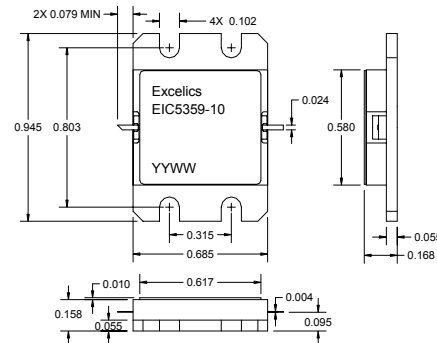
EIC5359-10

UPDATED 08/16/2005

5.30 – 5.90 GHz 10W Internally Matched Power FET

FEATURES

- 5.30-5.90 GHz BANDWIDTH AND INPUT/OUTPUT IMPEDANCE MATCHED TO 50 OHM
- HIGH PAE: 30% TYPICAL
- +40.5 dBm TYPICAL P_{1dB} OUTPUT POWER
- 10dB TYPICAL G_{1dB} POWER GAIN
- HERMETIC METAL FLANGE PACKAGE



Caution! ESD sensitive device.

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

SYMBOLS	PARAMETERS/TEST CONDITIONS ¹	MIN	TYP	MAX	UNIT
P_{1dB}	Output Power at 1dB Compression $f=5.3-5.9\text{GHz}$, $V_{ds}=10\text{V}$, $I_{dsq}=3200\text{mA}$	39.5	40.5		dBm
G_{1dB}	Gain at 1dB Compression $f=5.3-5.9\text{GHz}$, $V_{ds}=10\text{V}$, $I_{dsq}=3200\text{mA}$	9	10		dB
ΔG	Gain Flatness $f = 5.3-5.9\text{GHz}$, $V_{ds} = 10\text{V}$, $I_{dsq} = 3200\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB compression $f=5.3-5.9\text{GHz}$, $V_{ds}=10\text{V}$, $I_{dsq}=3200\text{mA}$		30		%
I_{d1dB}	Drain Current at 1dB Compression		3300	3800	mA
IM_3	Output 3 rd Order Intermodulation Distortion $f=5.9\text{GHz}$ $\Delta f=10\text{MHz}$ 2-Tone Test. $P_{out}=29.5\text{ dBm S.C.L.}^2$ $I_{ds} @ 65\% I_{dss}$	-43	-46		dBc
I_{dss}	Saturated Drain Current $V_{ds}=3\text{V}$, $V_{gs}=0\text{V}$		5800	6400	mA
V_p	Pinch-off Voltage $V_{ds}=3\text{V}$, $I_{ds}=60\text{mA}$		-2.5	-4	V
R_{th}	Thermal Resistance ³ (Au-Sn Eutectic Attach)		2.5	3	$^\circ\text{C/W}$

Note: 1) Tested with 50 Ohm gate resistor. 2) S.C.L = Single Carrier Level. 3) Overall R_{th} depends on case mounting.

ABSOLUTE MAXIMUM RATING^{1,2}

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
V_{ds}	Drain-Source Voltage	15	10V
V_{gs}	Gate-Source Voltage	-5	-4V
I_{ds}	Drain Current	I_{DSS}	5000mA
I_{gsf}	Forward Gate Current	120mA	40mA
I_{gsr}	Reverse Gate Current	-20.4mA	-6.8mA
P_{in}	Input Power	39.5dBm	@ 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	50W	50W

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.

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