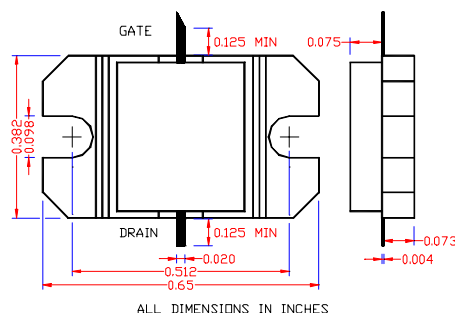


PRELIMINARY DATA SHEET
18.7-19.7GHz, 1W Internally Matched Power FET

- 18.7-19.7GHz BANDWIDTH AND INPUT/OUTPUT IMPEDANCE MATCHED TO 50 OHM
- EIA FEATURES HIGH PAE(25% TYPICAL)
- EIB FEATURES HIGH IP3(43dBm TYPICAL)
- +30.0/+29.5dBm TYPICAL P_{1dB} OUTPUT POWER FOR EIA/EIB
- 6.5/5.5dB TYPICAL G_{1dB} POWER GAIN FOR EIA/EIB
- NON-HERMETIC METAL FLANGE PACKAGE


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

SYMBOLS	PARAMETERS/TEST CONDITIONS	EIA1819-1P			EIB1819-1P			UNIT
		MIN	TYP	MAX	MIN	TYP	MAX	
P_{1dB}	Output Power at 1dB Compression $f=18.7-19.7\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}(\text{EIA})$, $0.6 I_{dss}(\text{EIB})$	29	30.0		29.0	29.5		dBm
G_{1dB}	Gain at 1dB Compression $f=18.7-19.7\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}(\text{EIA})$, $0.6 I_{dss}(\text{EIB})$	6.0	6.5		5.0	5.5		dB
PAE	Power Added Efficiency at 1dB compression $f=18.7-19.7\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}(\text{EIA})$, $0.6 I_{dss}(\text{EIB})$		25			20		%
I_{d1dB}	Drain Current at 1dB Compression		440			425		mA
IP3	Output 3 rd Order Intercept Point $f=18.7-19.7\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}(\text{EIA})$, $0.6 I_{dss}(\text{EIB})$		37			43*		dBm
I_{dss}	Saturated Drain Current $V_{ds}=3\text{V}$, $V_{gs}=0\text{V}$	550	720	850	550	720	850	mA
G_m	Transconductance $V_{ds}=3\text{V}$, $V_{gs}=0\text{V}$		760			360		mS
V_p	Pinch-off Voltage $V_{ds}=3\text{V}$, $I_{ds}=6\text{mA}$		-1.0	-2.5		-2.0	-3.5	V
BV_{gd}	Drain Breakdown Voltage $I_{gd}=2.4\text{mA}$	-13	-15			-15		V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		16			16		$^\circ\text{C}/\text{W}$

*Typical -45dBc IM3 at $P_{out}=20\text{dBm}/\text{Tone}$

MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
V_{ds}	Drain-Source Voltage	12V	8V
V_{gs}	Gate-Source Voltage	-8V	-3V
I_{ds}	Drain Current	I_{dss}	I_{dss}
I_{gsf}	Forward Gate Current	90mA	15mA
P_{in}	Input Power	32dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175 $^\circ\text{C}$	150 $^\circ\text{C}$
T_{stg}	Storage Temperature	-65/175 $^\circ\text{C}$	-65/150 $^\circ\text{C}$
P_t	Total Power Dissipation	8.5W	7.1W

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.