

MaXEA 2.0 (Pre-Release) 40V Integrated Envelope Modulator

The MaXEA 2.0 is part of the MaXentric Technologies GreenAmp-lite Envelope Tracking product line. The design represents a major leap forward in RF power amplification for wireless communication, providing a wideband high efficiency RF power amplifier solution. The MaXEA is an integrated envelope modulator designed in a high voltage silicon process.

Features:

- Greatly increases RF PA power efficiency
- Operates up to 20MHz modulation bandwidth
- Average output power up to 7W
- Peak output power up to 40W
- Supports Peak-to-Average Power Ratios of greater than 7dB
- Power Efficiency > 70%
- Low output impedance
- Compatible with RF PAs in GaN, Si-LDMOS, GaAs, etc...
- RF PA carrier frequency independent
- Designed for WCDMA and LTE waveforms
- Available in a compact QFN package



Recommended Operating Conditions

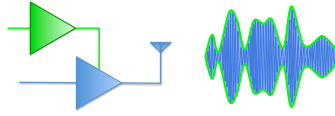
Parameter	Min	Max	Typ	Units
Supply Voltage	25	40	35	V
Driver V _{DD}	5	32	25	V
Driver V _{SS}	-15	0	-5	V
Input Signal				
Voltage Swing	0	4	0-4	V
Frequency	0	100	0-100	MHz
Operating Air Temp	TBD*	TBD*	+25	°C

* Temperature ratings will be included upon completion of thermal testing

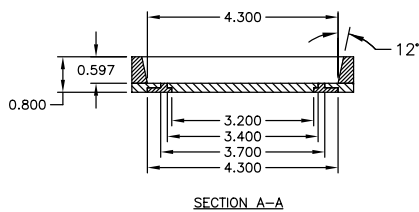
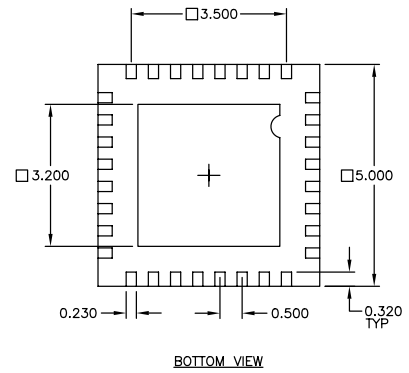
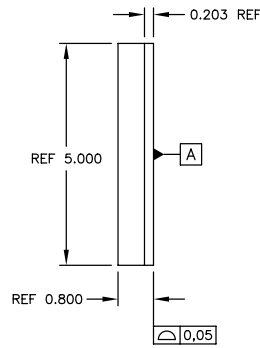
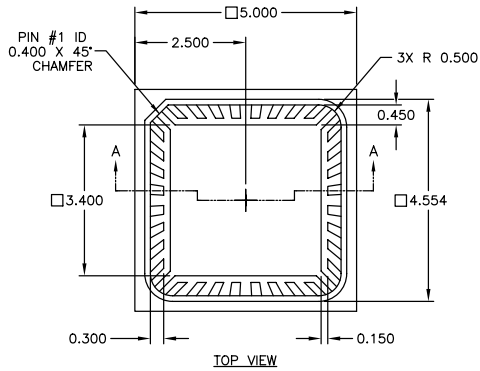
Maximum Ratings

Parameter	Max	Units
Supply Voltage	40	V
Driver V _{DD} - V _{SS}	37.5	V
Peak Input Voltage	5	V
Supply Current	550	mA
Peak Output Voltage	40	V
Peak Output Current	1000	mA
RMS Output Current	550	mA
Maximum Load Impedance	200	Ω
Minimum Load Impedance (Assuming 7.6dB PAPR, 40V peak output)	40	Ω
Maximum Junction Temperature	TBD*	°C
Operating Air Temp Range	TBD*	°C

* Temperature ratings will be included upon completion of thermal testing



MaXEA 2.0 QFN Package Specifications (all units in mm)



NOTES

1. MATERIALS:
LEAD FRAME: COPPER 194FH, THK = 0.203±0.008
BODY: SEMICONDUCTOR MOLDING EPOXY, CONTACT QUIK-PAK FOR DETAILS.
2. FINISH:
LEAD FRAME: ELECTROLESS NICKEL PER MIL-C-26074, CLASS 1, 100 TO 300 MICRONS (2.5µm - 7.6µm) THICK.
GOLD PLATE PER MIL-G-45204, TYPE 3, GRADE A, CLASS 1 (40 TO 80 MICRONS (1µm - 2µm) THICK).
BODY SURFACE FINISH: VDI 21-24 (1.12-1.6 Ra).
3. PACKAGE MISMATCH: BODY OFFSET TO LEAD FRAME = 0.076mm MAX
4. UNLESS OTHERWISE SPECIFIED, RADIUS ON ALL MOLDED EDGES AND CORNERS = 0.25mm MAX.
5. PACKAGE CONFORMS TO JEDEC MO-220.