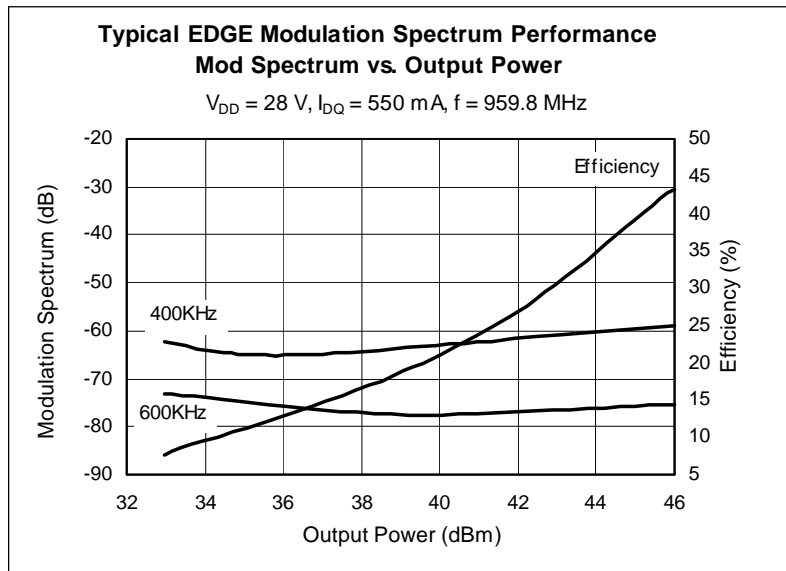


LDMOS RF Power Field Effect Transistor 60 W, 860–960 MHz

Description

The PTF080601 is a 60-W, internally matched *GOLDMOS* FET intended for EDGE and CDMA applications in the 860 to 960 MHz band. Full gold metallization ensures excellent device lifetime and reliability.



Features

- Broadband internal matching
- Typical EDGE performance
 - Average output power = 30 W
 - Gain = 18 dB
 - Efficiency = 40%
- Typical CW performance
 - Output power at P-1dB = 90 W
 - Gain = 17 dB
 - Efficiency = 60%
- Integrated ESD protection: Human Body Model, Class 1 (minimum)
- Excellent thermal stability
- Low HCI drift
- Capable of handling 10:1 VSWR @ 28 V, 60 W (CW) output power

PTF080601A
Package 20248

PTF080601E
Package 30248

PTF080601F
Package 31248



RF Characteristics at $T_{CASE} = 25^{\circ}\text{C}$ unless otherwise indicated

Two-Tone Measurements (tested in Infineon test fixture)

$V_{DD} = 28\text{ V}$, $I_{DQ} = 550\text{ mA}$, $P_{OUT} = 60\text{ W PEP}$, $f_C = 960\text{ MHz}$, tone spacing = 1000 kHz

Characteristic	Symbol	Min	Typ	Max	Units
Gain	G_{ps}	—	18	—	dB
Drain Efficiency	η_D	—	42	—	%
Intermodulation Distortion	IMD	—	-32	—	dBc

EDGE Measurements (not subject to production test—verified by design/characterization in Infineon test fixture)

$V_{DD} = 28\text{ V}$, $I_{DQ} = 550\text{ mA}$, $P_{OUT} = 30\text{ W}$, $f = 959.8\text{ MHz}$

Characteristic	Symbol	Min	Typ	Max	Units
Error Vector Magnitude	EVM (RMS)	—	2.0	—	%
Modulation Spectrum @ 400 KHz	ACPR	—	-61	—	dBc
Modulation Spectrum @ 600 KHz	ACPR	—	-74	—	dBc
Gain	G_{ps}	—	18	—	dB
Drain Efficiency	η_D	—	40	—	%

DC Characteristics at $T_{CASE} = 25^{\circ}C$ unless otherwise indicated

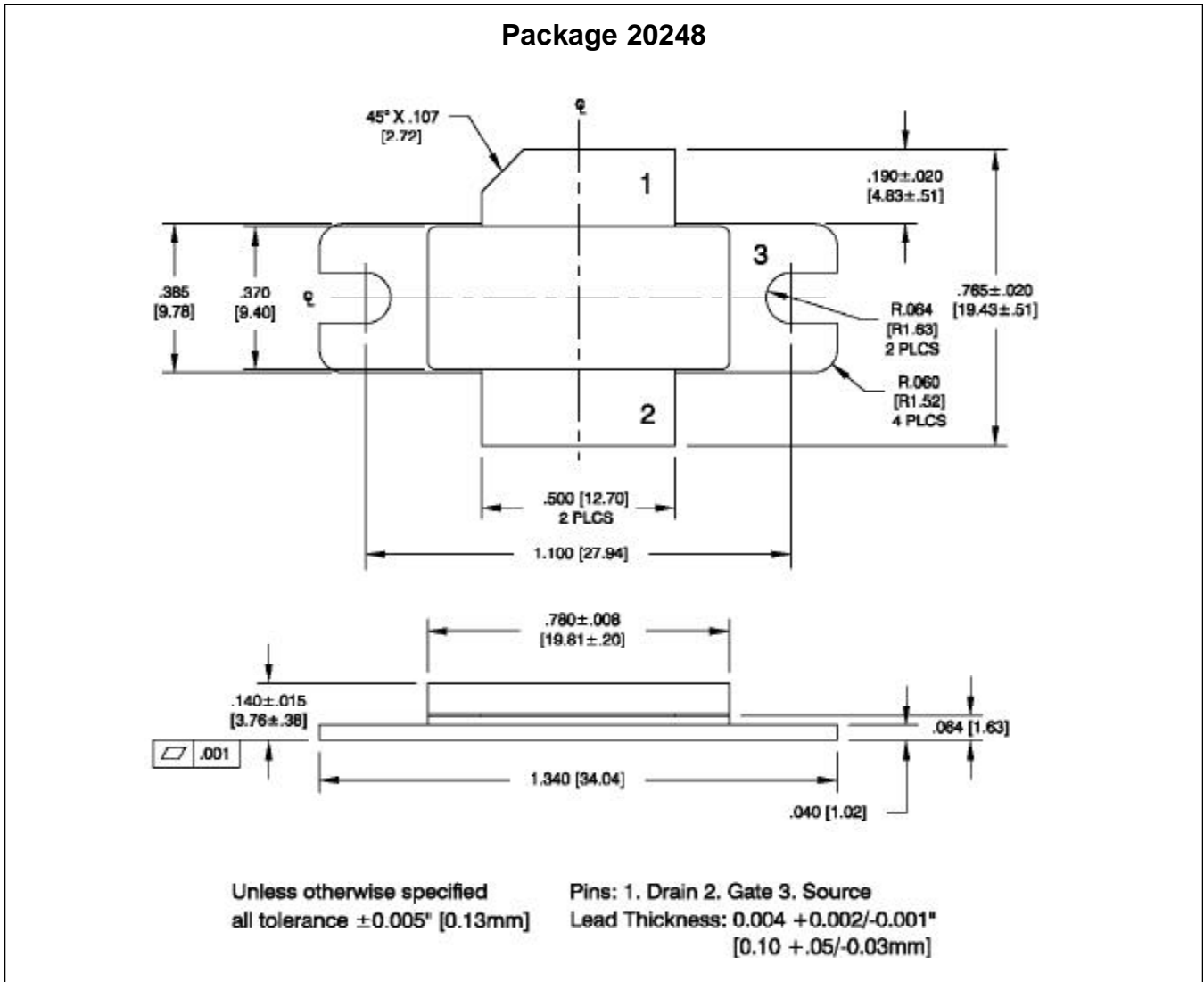
Characteristic	Conditions	Symbol	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS} = 0 V, I_{DS} = 10 \mu A$	$V_{(BR)DSS}$	—	65	—	V
Drain Leakage Current	$V_{DS} = 28 V, V_{GS} = 0 V$	I_{DSS}	—	1.0	—	μA
On-State Resistance	$V_{GS} = 10 V, I_{DS} = 1 A$	$R_{DS(on)}$	—	0.1	—	Ω
Operating Gate Voltage	$V_{DS} = 28 V, I_{DQ} = 550 mA$	V_{GS}	—	3.2	—	V
Gate Leakage Current	$V_{GS} = 10 V, V_{DS} = 0 V$	I_{GSS}	—	—	1.0	μA

Maximum Ratings

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DSS}	65	V
Gate-Source Voltage		V_{GS}	-0.5 to +12	V
Junction Temperature		T_J	200	$^{\circ}C$
Total Device Dissipation	PTF080601A	P_D	180	W
Above 25 $^{\circ}C$ derate by			1.03	W/ $^{\circ}C$
Total Device Dissipation	PTF080601E	P_D	195	W
Above 25 $^{\circ}C$ derate by			1.11	W/ $^{\circ}C$
Storage Temperature Range		T_{STG}	-40 to +150	$^{\circ}C$
Thermal Resistance ($T_{CASE} = 70^{\circ}C$)	PTF080601A	$R_{\theta JC}$	0.972	$^{\circ}C/W$
	PTF080601E	$R_{\theta JC}$	0.897	$^{\circ}C/W$

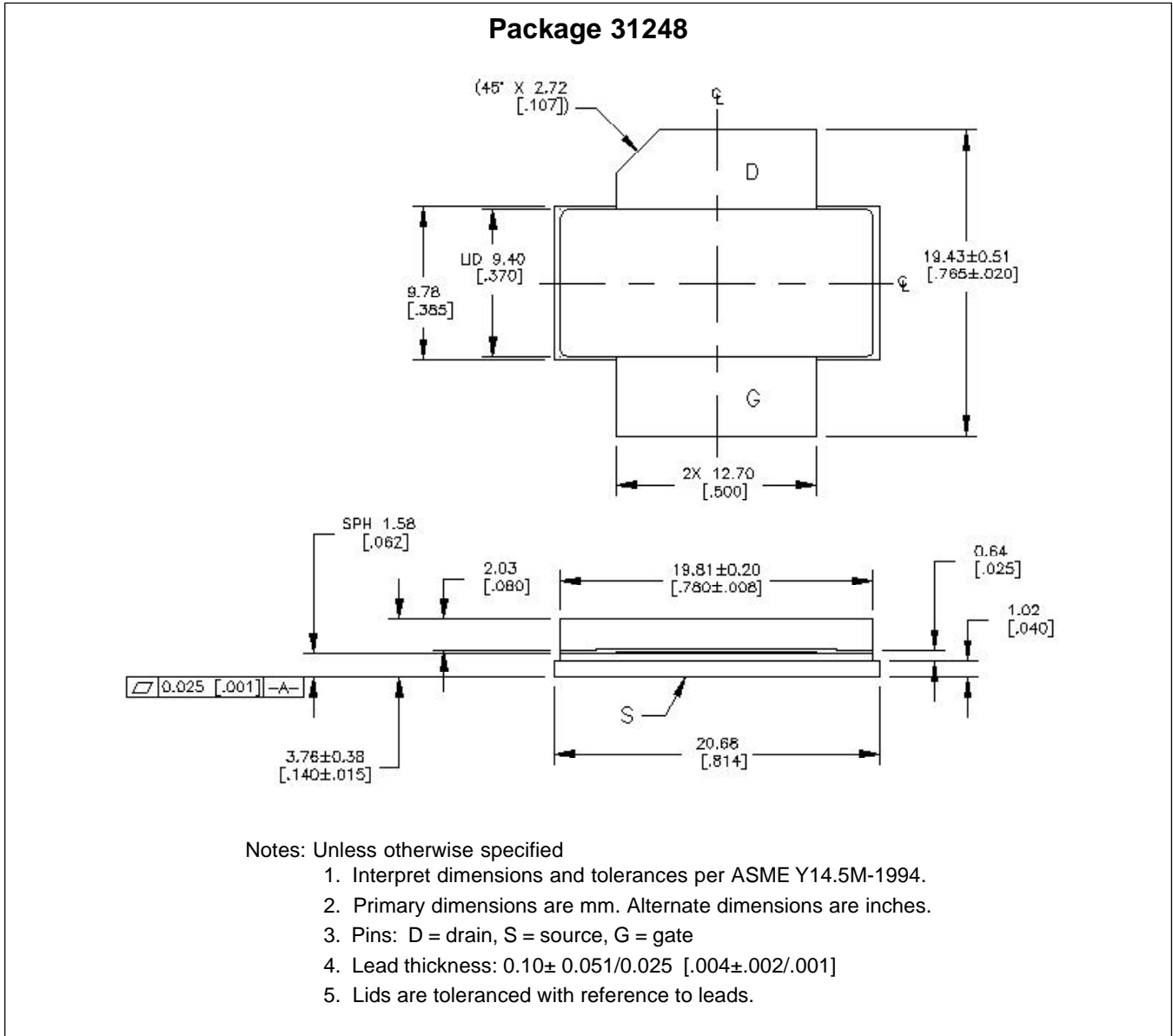
Type	Package Outline	Package Description	Marking
PTF080601A	20248	Standard ceramic, flange	PTF080601A
PTF080601E	30248	Thermally enhanced, flange	PTF080601E
PTF080601F	31249	Thermally enhanced, no flange	PTF080601F

Package Outline Specifications



Find the latest and most complete information about products and packaging at the Infineon Internet page <http://www.infineon.com/rfpower>

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PTF080601

Revision History: 2003-12-05 Developmental

Previous Version: none

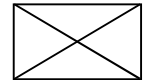
Page	Subjects (major changes since last revision)

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highpowerRF@infineon.com

To request other information, contact us at:
+1 877 465 3667 (1-877-GOLDMOS) USA
or +1 408 776 0600 International



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