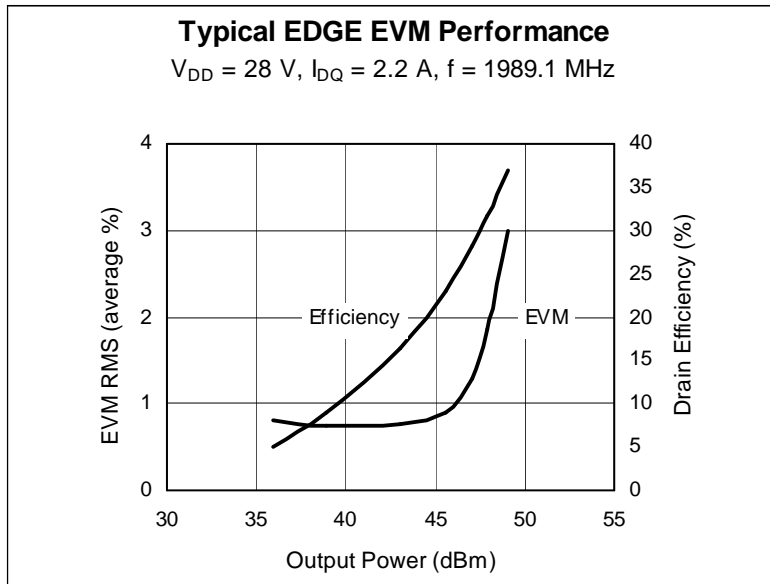


## LDMOS RF Power Field Effect Transistor 160 W, 1930 – 1990 MHz

### Description

The PTF191601 is a 160 W, internally matched *GOLDMOSFET* intended for GSM and EDGE applications in the 1930 to 1990 MHz band. Full gold metallization ensures excellent device lifetime and reliability.



### Features

- Broadband internal matching
- Typical EDGE performance
  - Average output power = 62 W
  - Gain = 14 dB
  - Efficiency = 32%
  - EVM = 1.7%
- Typical CW performance
  - Output power at P-1dB = 180 W
  - Gain = 13 dB
  - Efficiency = 47%
- Integrated ESD protection: Human Body Model, Class 1 (minimum)
- Excellent thermal stability
- Low HCI drift
- Capable of handling 10:1 VSWR @ 28 V, 160 W (CW) output power



PTF191601E  
Package 30260

**ESD:** Electrostatic discharge sensitive device—observe handling precautions!

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

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

$V_{DD} = 28\text{ V}$ ,  $I_{DQ} = 2.2\text{ A}$ ,  $P_{OUT} = 62\text{ W}$ ,  $f = 1989.8\text{ MHz}$

Characteristic	Symbol	Min	Typ	Max	Units
Error Vector Magnitude	EVM (RMS)	—	1.7	—	%
Modulation Spectrum @ 400 kHz	ACPR	—	-60	—	dBc
Modulation Spectrum @ 600 kHz	ACPR	—	-73	—	dBc
Gain	$G_{ps}$	—	14	—	dB
Drain Efficiency	$\eta_D$	—	32	—	%

**Two-Tone Measurements** (tested in Infineon test fixture)

$V_{DD} = 28\text{ V}$ ,  $I_{DQ} = 2.2\text{ A}$ ,  $P_{OUT} = 160\text{ W PEP}$ ,  $f = 1990\text{ MHz}$ , tone spacing = 1 MHz

Characteristic	Symbol	Min	Typ	Max	Units
Gain	$G_{ps}$	—	14	—	dB
Drain Efficiency	$\eta_D$	—	36	—	%
Intermodulation Distortion	IMD	—	-30	—	dBc

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

Characteristic	Conditions	Symbol	Min	Typ	Max	Units
Drain–Source Breakdown Voltage	$V_{GS} = 0\text{ V}, I_{DS} = 10\ \mu\text{A}$	$V_{(BR)DSS}$	65	—	—	V
Drain Leakage Current	$V_{DS} = 28\text{ V}, V_{GS} = 0\text{ V}$	$I_{DSS}$	—	—	1.0	$\mu\text{A}$
On–State Resistance	$V_{GS} = 10\text{ V}, V_{DS} = 0.1\text{ V}$	$R_{DS(on)}$	—	0.07	—	$\Omega$
Operating Gate Voltage	$V_{DS} = 28\text{ V}, I_{DQ} = 2.2\text{ A}$	$V_{GS}$	2.5	3.2	4.0	V
Gate Leakage Current	$V_{GS} = 10\text{ V}, V_{DS} = 0\text{ V}$	$I_{GSS}$	—	—	1.0	$\mu\text{A}$

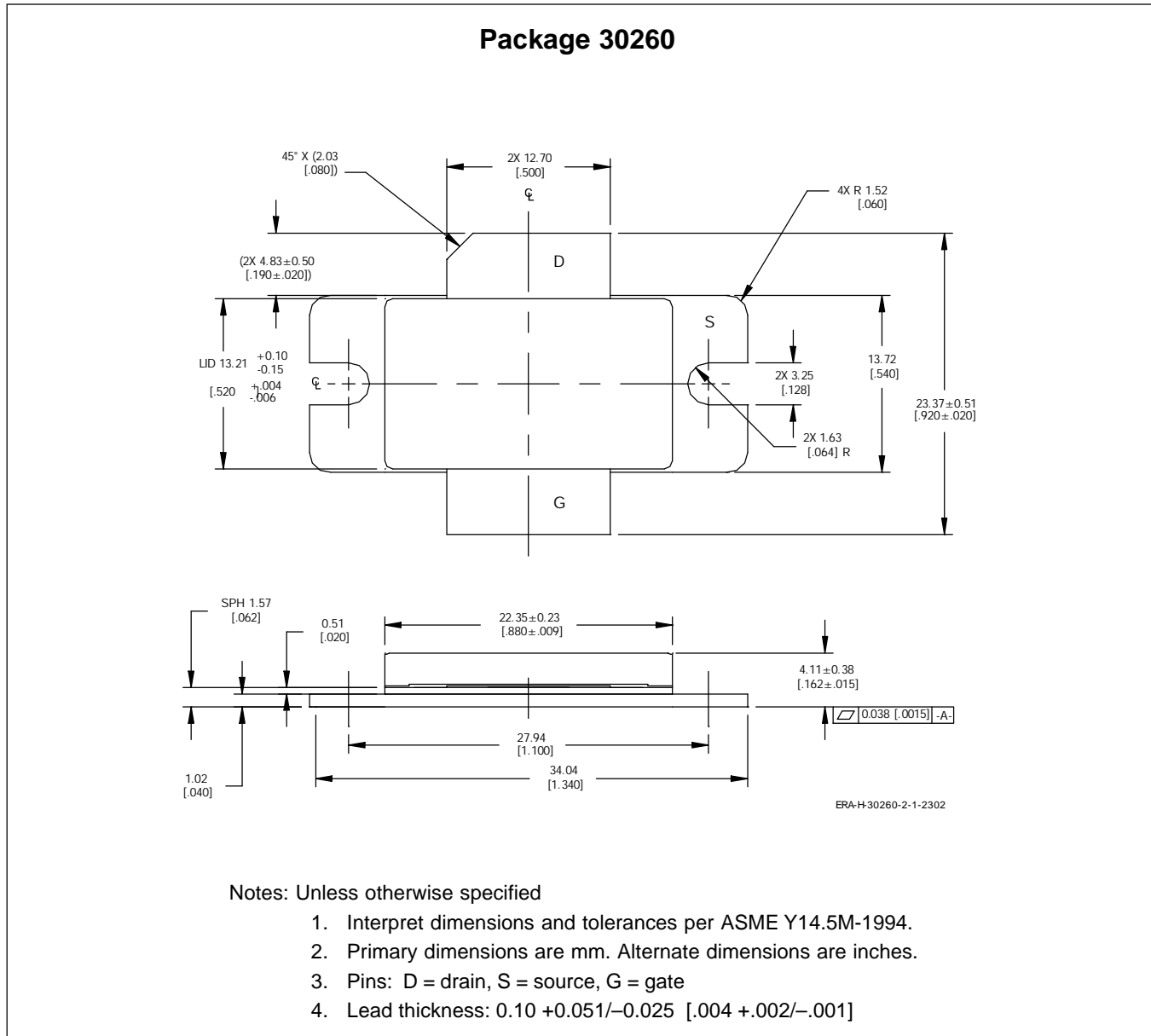
**Maximum Ratings**

Parameter	Symbol	Value	Unit
Drain–Source Voltage	$V_{DSS}$	65	V
Gate–Source Voltage	$V_{GS}$	–0.5 to +12	V
Operating Junction Temperature	$T_J$	200	$^{\circ}C$
Total Device Dissipation	$P_D$	583	W
Above $25^{\circ}C$ derate by		3.33	$W/^{\circ}C$
Storage Temperature Range	$T_{STG}$	–40 to +150	$^{\circ}C$
Thermal Resistance ( $T_{CASE} = 70^{\circ}C, 130\text{ W CW}$ )	$R_{\theta JC}$	0.30	$^{\circ}C/W$

### Ordering Information

Type	Package Outline	Package Description	Marking
PTF191601E	30260	Thermally enhanced, flange mount	PTF191601E

### Package Outline Specifications



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

**PTF191601**

**Limited Distribution**

**Revision History:** 04-03-17

Developmental Data Sheet

Previous Version: none

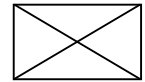
Page	Subjects (major changes since last revision)

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