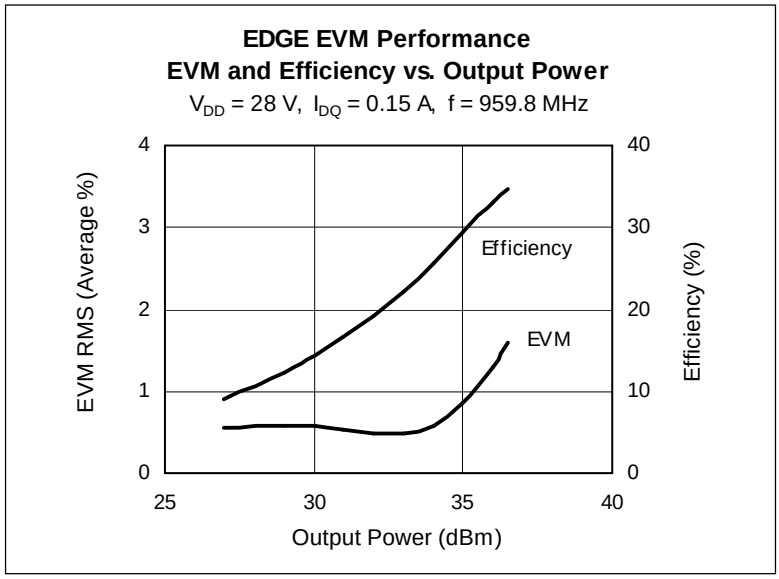
LDMOS RF Power Field Effect Transistor
10 W, 860–960 MHz

Description

The PTF080101 is a 10 W, internally matched *GOLDMOS* FET intended for EDGE 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 = 4.0 W
  - Gain = 19 dB
  - Efficiency = 31%
- Typical CW performance
  - Output power at P–1dB = 13 W
  - Gain = 18 dB
  - Efficiency = 55%
- Integrated ESD protection: Human Body Model, Class 1 (minimum)
- Excellent thermal stability
- Low HCI drift
- Capable of handling 10:1 VSWR @ 28 V, 10 W (CW) output power

PTF080101S
Package 32259

ESD: Electrostatic discharge sensitive device—observe handling precautions!

RF Characteristics at T_{CASE} = 25°C unless otherwise indicated

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

V_{DD} = 28 V, I_{DQ} = 150 mA, P_{OUT} = 4.0 W, f = 959.8 MHz

Characteristic	Symbol	Min	Typ	Max	Units
Error Vector Magnitude	EVM (RMS)	—	1.3	—	%
Modulation Spectrum @ 400 kHz	ACPR	—	–61	—	dBc
Modulation Spectrum @ 600 kHz	ACPR	—	–75	—	dBc
Gain	G_{ps}	—	19	—	dB
Drain Efficiency	η_D	—	31	—	%

Two–Tone Measurements (tested in Infineon test fixture)

V_{DD} = 28 V, I_{DQ} = 150 mA, P_{OUT} = 10 W PEP, f = 960 MHz, tone spacing = 1 MHz

Characteristic	Symbol	Min	Typ	Max	Units
Gain	G_{ps}	—	19	—	dB
Drain Efficiency	η_D	—	37	—	%
Intermodulation Distortion	IMD	—	–32	—	dBc

DC Characteristics at T_{CASE} = 25°C unless otherwise indicated

Characteristic	Conditions	Symbol	Min	Typ	Max	Units
Drain–Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 10 µA	$V_{(BR)DSS}$	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} = 0.1 A	$R_{DS(on)}$	—	0.83	—	Ω
Operating Gate Voltage	V_{DS} = 28 V, I_{DQ} = 150 mA	V_{GS}	—	3.2	—	V
Gate Leakage Current	V_{GS} = 10 V, V_{DS} = 0 V	I_{GSS}	—	—	1.0	µA

Maximum Ratings

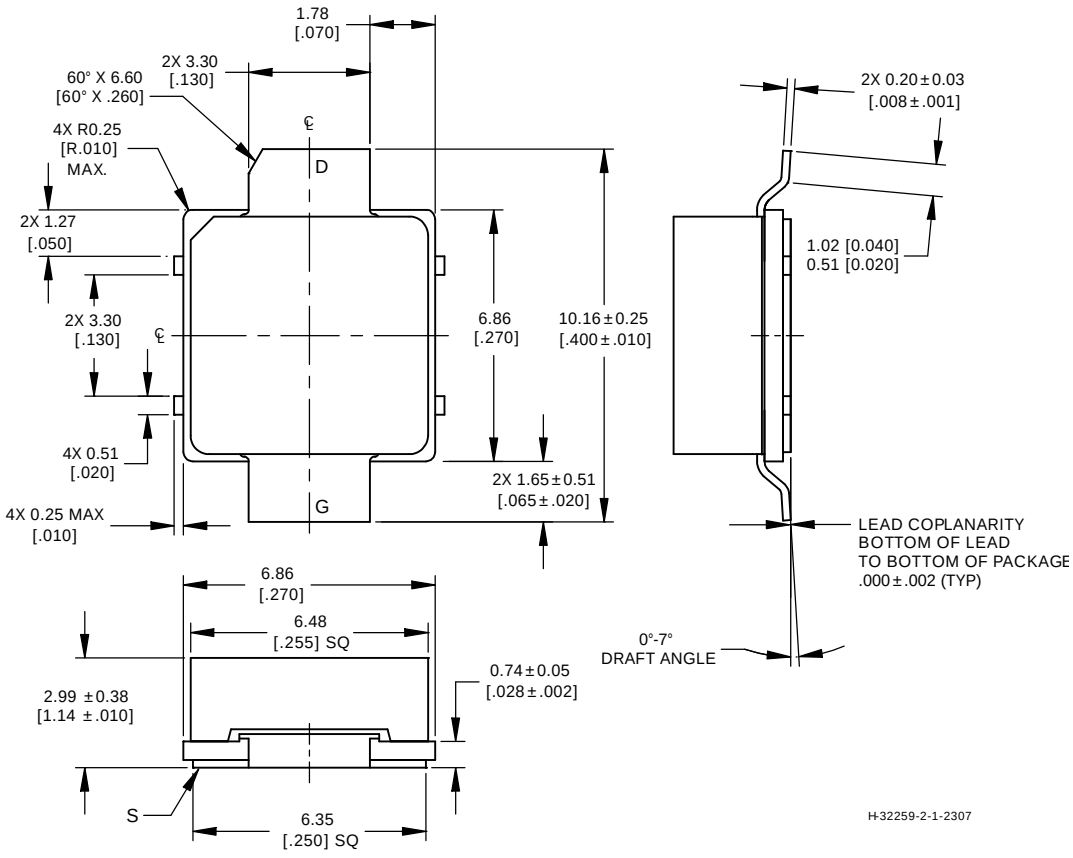
Parameter	Symbol	Value	Unit
Drain–Source Voltage	V_{DSS}	65	V
Gate–Source Voltage	V_{GS}	–0.5 to +12	V
Operating Junction Temperature	T_J	200	°C
Total Device Dissipation	P_D	58	W
Above 25°C derate by		0.333	W/°C
Storage Temperature Range	T_{STG}	–40 to +150	°C
Thermal Resistance (T_{CASE} = 70°C)	$R_{\theta JC}$	3.0	°C/W

Ordering Information

Type	Package Outline	Package Description	Marking
PTF080101S	32259	Thermally enhanced, surface mount	PTF080101S

Package Outline Specifications

Package 32259



Notes: Unless otherwise specified

1. Interpret dimensions and tolerances per ASME Y14.5M-1994.
2. Primary dimensions are mm. Alternate dimensions are inches.
3. Pins: D = drain, S = source, G = gate
4. Lead thickness: 0.21 ±0.03 [.008 ± .001]

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

PTF080101

Revision History:	2004-03-08	Developmental Data Sheet
Previous Version:	none	

Page	Subjects (major changes since last revision)

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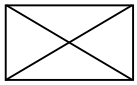

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