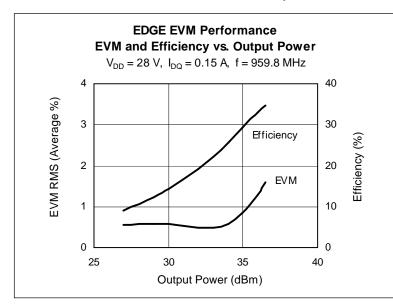


LDMOS RF Power Field Effect Transistor 10 W, 860–960 MHz

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
 - Gain = 18 dB- Efficiency = 55%
- Integrated ESD protection: Human Body Model, Class 1 (minimum)
- Excellent thermal stability
- Low HCI drift

PTF080101S

Package 32259

• Capable of handling 10:1 VSWR @ 28 V, 10 W (CW) output power



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	Тур	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	Тур	Max	Units
Gain	G _{ps}	_	19	_	dB
Drain Efficiency	η _D		37	_	%
Intermodulation Distortion	IMD	_	-32	—	dBc

Developmental Data Sheet



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

Characteristic	Conditions	Symbol	Min	Тур	Max	Units
Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 10 μ A	V _{(BR)DSS}	65	_	_	V
Drain Leakage Current	$V_{DS} = 28 \text{ V}, V_{GS} = 0 \text{ V}$	IDSS	_	_	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	$V_{GS} = 10 \text{ V}, V_{DS} = 0 \text{ V}$	I _{GSS}	_	_	1.0	μA

Maximum Ratings

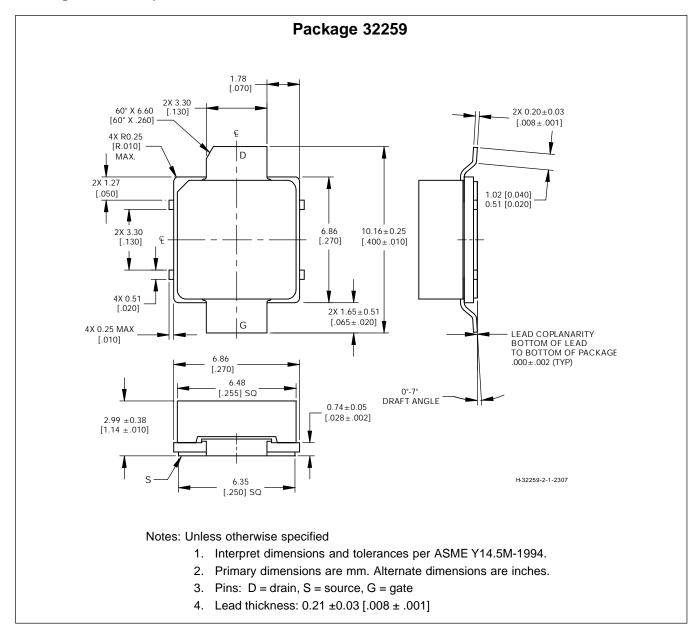
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DSS}	65	V
Gate-Source Voltage	V _{GS}	-0.5 to +12	V
Operating Junction Temperature	TJ	200	°C
Total Device Dissipation	PD	58	W
Above 25°C derate by		0.333	W/°C
Storage Temperature Range	T _{STG}	-40 to +150	°C
Thermal Resistance (T _{CASE} = 70°C)	$R_{ extsf{ heta}JC}$	3.0	°C/W



Ordering Information

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

Package Outline Specifications



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

PTF080101

sion: none	
Subjects (major changes since last revision)	

We Listen to Your Comments

Any information within this document that you feel is wrong, unclear or missing at all? Your feedback will help us to continuously improve the quality of this document. Please send your proposal (including a reference to this document) to:

highpowerRF@infineon.com

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

GOLDMOS® is a registered trademark of Infineon Technologies AG.

Edition 2004-03-08 Published by Infineon Technologies AG, St.-Martin-Strasse 53, 81669 München, Germany © Infineon Technologies AG 2004. All Rights Reserved.

Attention please!

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com/rfpower).

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.