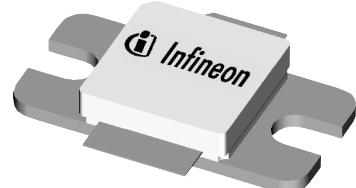


## Thermally Enhanced High Power RF LDMOS FETs 55 W, 450 – 500 MHz

### Description

The PTF040551E and PTF040551F are thermally-enhanced, 55-watt, internally matched *GOLDMOS* FETs intended for CDMA applications in the 450 to 500 MHz band. Full gold metallization ensures excellent device lifetime and reliability.

PTF040551E\*  
Package 30265

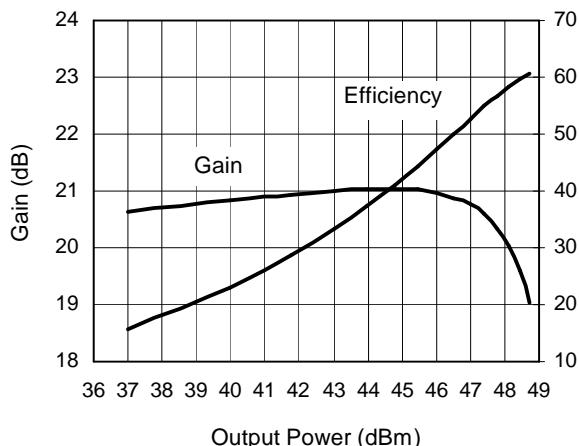


PTF040551F\*  
Package 31265



### Gain & Efficiency vs. Output Power

$V_{DD} = 28$  V,  $I_{DQ} = 450$  mA,  $f = 470$  MHz



### Features

- Thermally Enhanced
- Broadband internal matching
- Typical CW performance
  - Output power at  $P_{-1dB} = 65$  W
  - Gain = 20 dB
  - Efficiency = 60%
- Integrated ESD protection: Human Body Model, Class 1 (minimum)
- Excellent thermal stability
- Low HCl drift
- Capable of handling 5:1 VSWR @ 28 V, 55 W (CW) output power

### RF Characteristics

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

$V_{DD} = 28$  V,  $I_{DQ} = 450$  mA,  $P_{OUT} = 10$  W,  $f = 470$  MHz

Characteristic	Symbol	Min	Typ	Max	Units
Gain	$G_{ps}$	—	20	—	dB
Drain Efficiency	$\eta_D$	—	25	—	%

All published data at  $T_{CASE} = 25^\circ\text{C}$  unless otherwise indicated

\*See Infineon distributor for future availability.

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

## DC Characteristics

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	$V_{GS} = 10 \text{ V}$ , $V_{DS} = 0.1 \text{ V}$	$R_{DS(on)}$	—	0.1	—	$\Omega$
Operating Gate Voltage	$V_{DS} = 28 \text{ V}$ , $I_{DQ} = 450 \text{ mA}$	$V_{GS}$	2.5	3.0	4	V
Gate Leakage Current	$V_{GS} = 10 \text{ V}$ , $V_{DS} = 0 \text{ V}$	$I_{GSS}$	—	—	1.0	$\mu\text{A}$

## Maximum Ratings

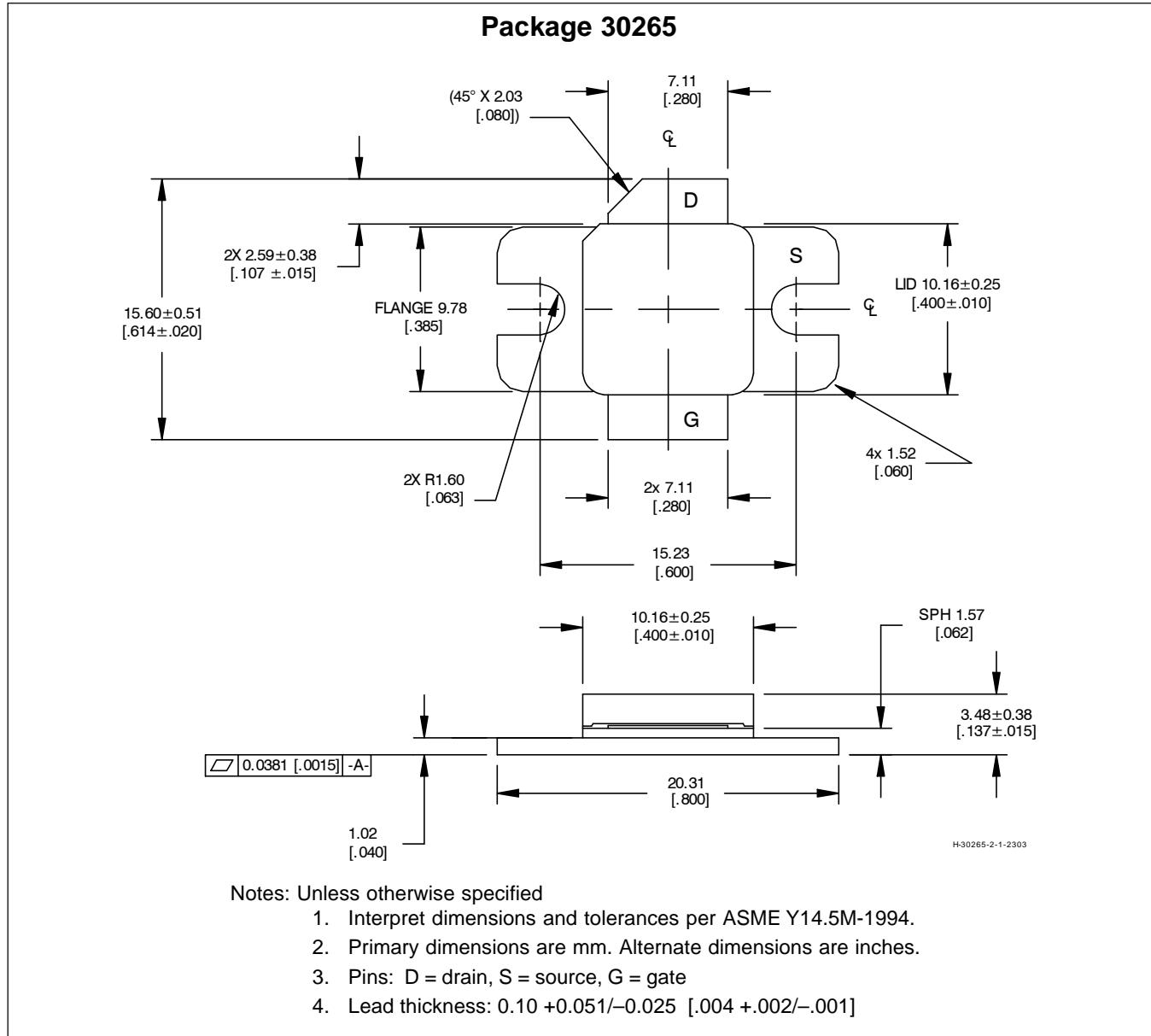
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DSS}$	65	V
Gate-Source Voltage	$V_{GS}$	−0.5 to +12	V
Junction Temperature	$T_J$	200	$^{\circ}\text{C}$
Total Device Dissipation	$P_D$	184	W
Above 25°C derate by		1.05	$\text{W}/^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	−40 to +150	$^{\circ}\text{C}$
Thermal Resistance ( $T_{CASE} = 70^{\circ}\text{C}$ )	$R_{\theta JC}$	0.95	$^{\circ}\text{C}/\text{W}$

## Ordering Information

Type	Package Outline	Package Description	Marking
PTF040551E*	30265	Thermally enhanced slotted flange, single-ended	PTF040551E
PTF040551F*	31265	Thermally enhanced earless flange, single-ended	PTF040551F

\*See Infineon distributor for future availability.

## Package Outline Specifications



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

\*Information not yet available for Package 31265. See your Infineon distributor for future availability.

Revision History: 2005-04-15

Preliminary Data Sheet

Previous Version: 2004-06-06, Preliminary Data Sheet

Page	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.

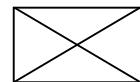
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[highpowerRF@infineon.com](mailto:highpowerRF@infineon.com)

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