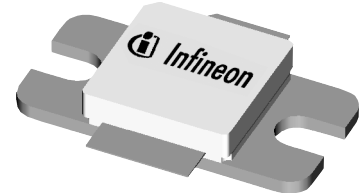


## Thermally Enhanced High Power RF LDMOS FETs 55 W, 450 – 500 MHz

### 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

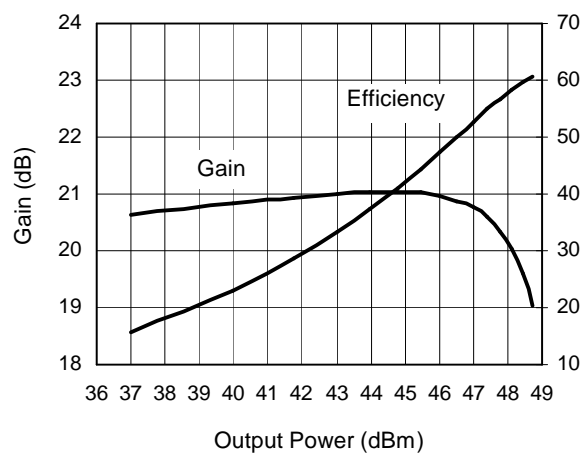


PTF040551F\*  
Package 31265



#### Gain & Efficiency vs. Output Power

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



### 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 HCI 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)

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

Characteristic	Symbol	Min	Typ	Max	Units
Gain	$G_{ps}$	—	20	—	dB
Drain Efficiency	$\eta_p$	—	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	$V_{GS} = 0\text{ V}, I_{DS} = 10\text{ }\mu\text{A}$	$V_{(BR)DSS}$	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

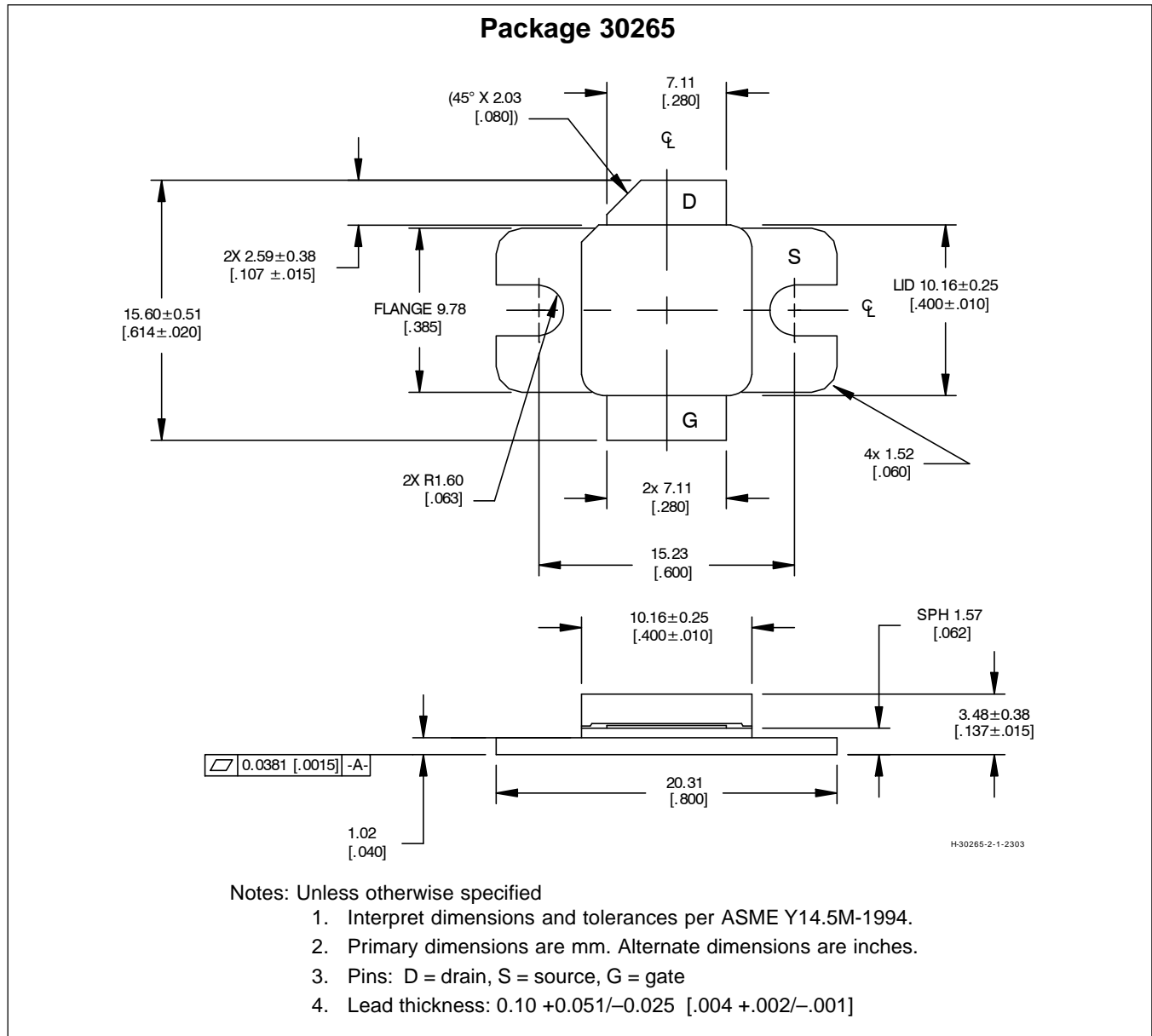
Parameter	Symbol	Value	Unit
Drain–Source Voltage	$V_{DSS}$	65	V
Gate–Source Voltage	$V_{GS}$	–0.5 to +12	V
Junction Temperature	$T_J$	200	$^{\circ}\text{C}$
Total Device Dissipation Above 25 $^{\circ}\text{C}$ derate by	$P_D$	184 1.05	W W/ $^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	–40 to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

## 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

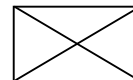
Page	Subjects (major changes since last revision)

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