

PRELIMINARY PTF 102004*

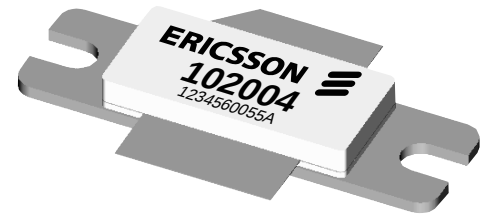
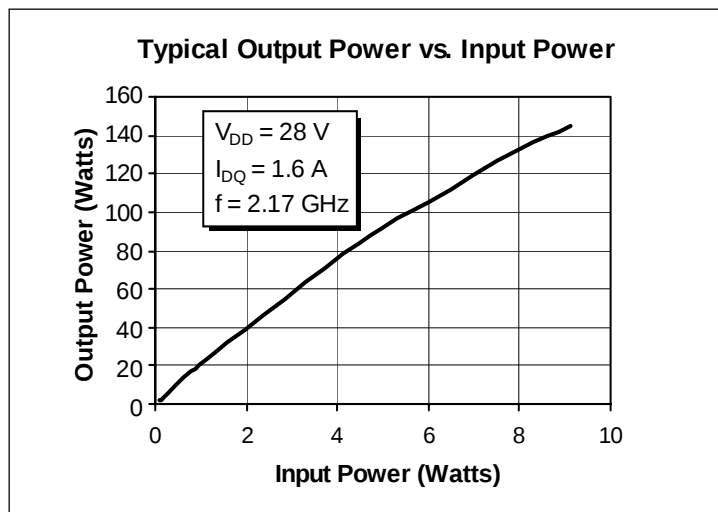
120 Watts, 2.1–2.2 GHz

GOLDMOS® FET

Description

The PTF 102004 is an internally matched GOLDMOS FET intended for WCDMA applications from 2.1 to 2.2 GHz. It is rated at 120 watts power output and 13 dB gain. Nitride surface passivation and full gold metallization ensure excellent device lifetime and reliability.

- **INTERNALLY MATCHED**
- **Guaranteed Performance at 2.17 GHz, 28 V**
 - Output Power = 120 Watts
 - Gain = 13 dB Min
- **Full Gold Metallization**
- **Silicon Nitride Passivated**
- **Back Side Common Source**
- **Excellent Thermal Stability**
- **100% Lot Traceability**



Package 20248

RF Specifications (100% Tested)

Characteristic	Symbol	Min	Typ	Max	Units
Gain ($V_{DD} = 28\text{ V}$, $P_{OUT} = 120\text{ W}$, $I_{DQ} = 1.6\text{ A}$, $f = 2.17\text{ GHz}$)	G_{ps}	13	—	—	dB
WCDMA ACP ($V_{DD} = 28\text{ V}$, $P_{OUT} = 12\text{ W}$, $I_{DQ} = 1.6\text{ A}$, $f = 2.17\text{ GHz}$)	ACP	-45	—	—	dBc
Power Output at 1 dB Compression ($V_{DD} = 28\text{ V}$, $I_{DQ} = 1.6\text{ A}$, $f = 2.17\text{ GHz}$)	P-1dB	120	—	—	Watts
Drain Efficiency ($V_{DD} = 28\text{ V}$, $P_{OUT} = 120\text{ W}$, $I_{DQ} = 1.6\text{ A}$, $f = 2.17\text{ GHz}$)	η_D	—	35	—	%
Load Mismatch Tolerance ($V_{DD} = 28\text{ V}$, $P_{OUT} = 120\text{ W}$, $I_{DQ} = 1.6\text{ A}$, $f = 2.17\text{ GHz}$ —all phase angles at frequency of test)	Ψ	—	—	10:1	—

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

* Note: Specifications for this product are preliminary and subject to change without notice. Please contact your sales representative for further product information.

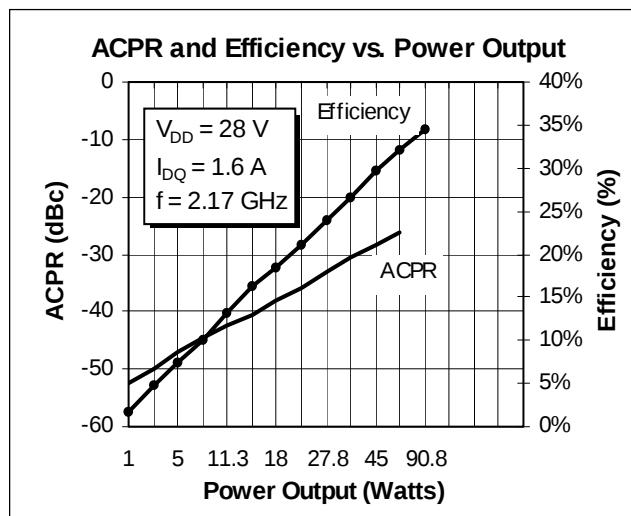
Electrical Characteristics (100% Tested)

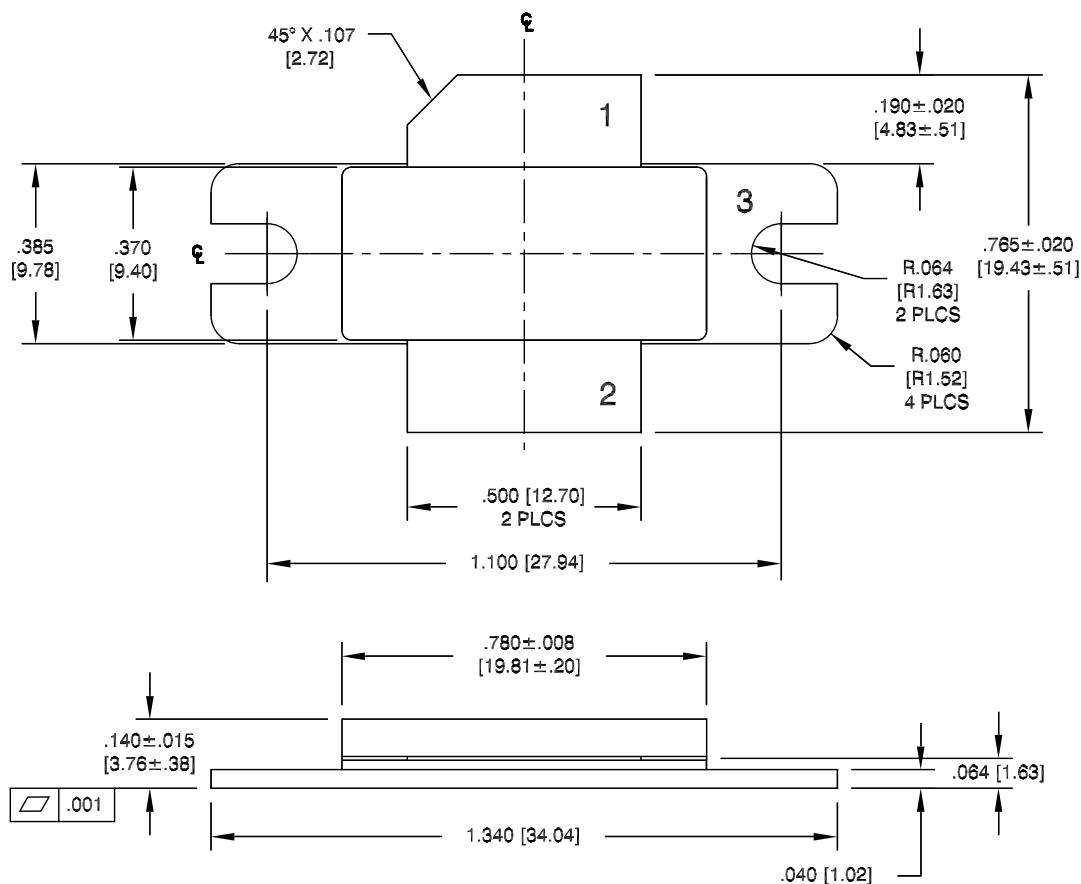
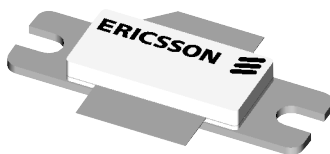
Characteristic	Conditions	Symbol	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}$, $I_D = 150\text{ mA}$	$V_{(BR)DSS}$	65	—	—	Volts
Zero Gate Voltage Drain Current	$V_{DS} = 28\text{ V}$, $V_{GS} = 0\text{ V}$	I_{DSS}	—	—	10	mA
Gate Threshold Voltage	$V_{DS} = 10\text{ V}$, $I_D = 150\text{ mA}$	$V_{GS(th)}$	3.0	—	5.0	Volts
Forward Transconductance	$V_{DS} = 10\text{ V}$, $I_D = 2\text{ A}$	g_{fs}	—	5.8	—	Siemens

Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	65	Vdc
Gate-Source Voltage	V_{GS}	± 20	Vdc
Operating Junction Temperature	T_J	200	$^{\circ}\text{C}$
Total Device Dissipation Above 25°C derate by	P_D	280 2.0	Watts $\text{W}/^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-40 to $+150$	$^{\circ}\text{C}$
Thermal Resistance ($T_{CASE} = 70^{\circ}\text{C}$)	$R_{\theta JC}$	0.5	$^{\circ}\text{C}/\text{W}$

Typical Performance



Case Outline Specifications
Package 20248


Unless otherwise specified
all tolerance ± 0.005 " [0.13mm]

Pins: 1. Drain 2. Gate 3. Source
Lead Thickness: $0.004 + 0.002/-0.001$ "
[0.10 $\pm$.05/-0.03mm]