DC Characteristics

Characteristic	Conditions	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 10 mA	$V_{(BR)DSS}$	65	—	—	V
Drain Leakage Current	V_{DS} = 28 V, V_{GS} = 0 V	I_{DSS}	—	—	1	µA
	V_{DS} = 63 V, V_{GS} = 0 V	I_{DSS}	—	—	10	µA
On-State Resistance	V_{GS} = 10 V, V_{DS} = 0.1 V	$R_{DS(on)}$	—	0.03	—	Ω
Operating Gate Voltage	V_{DS} = 28 V, I_{DQ} = 1600 mA	V_{GS}	2.3	2.6	2.9	V
Gate Leakage Current	V_{GS} = 10 V, V_{DS} = 0 V	I_{GSS}	—	—	1	µA

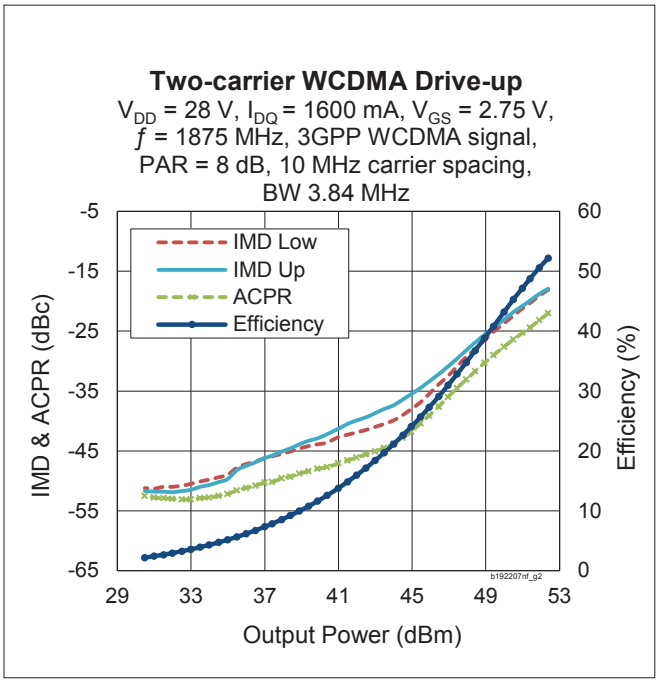
Maximum Ratings

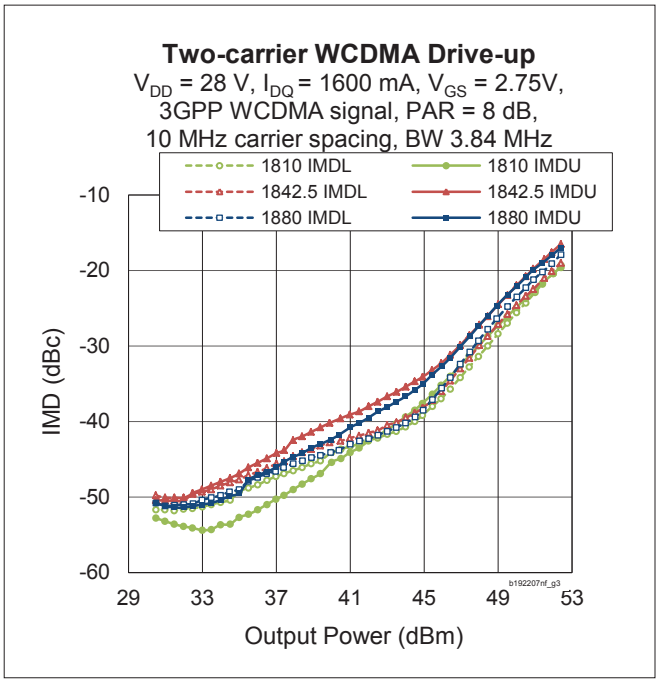
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	65	V
Gate-Source Voltage	V_{GS}	–6 to +10	V
Operating Voltage	V_{DD}	0 to +32	V
Junction Temperature	T_J	225	°C
Storage Temperature Range	T_{STG}	–65 to +150	°C
Thermal Resistance (T_{CASE} = 70°C, 200 W CW)	$R_{\theta JC}$	0.18	°C/W

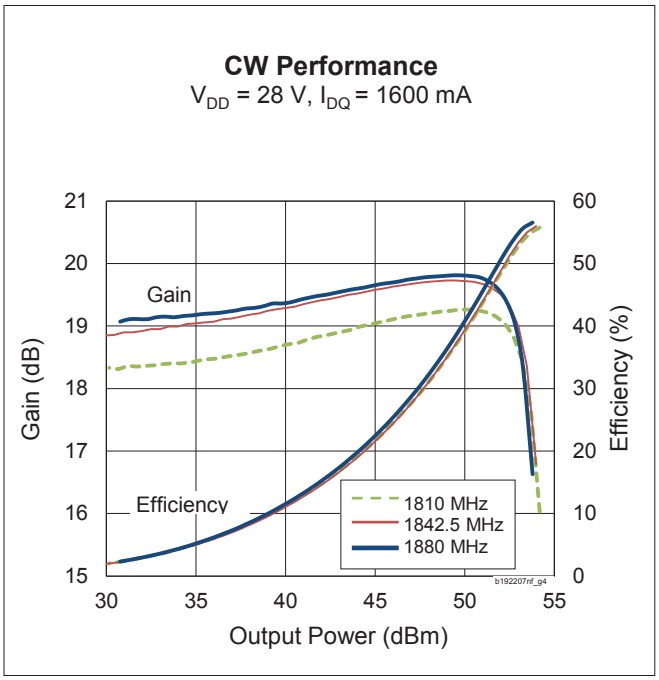
Ordering Information

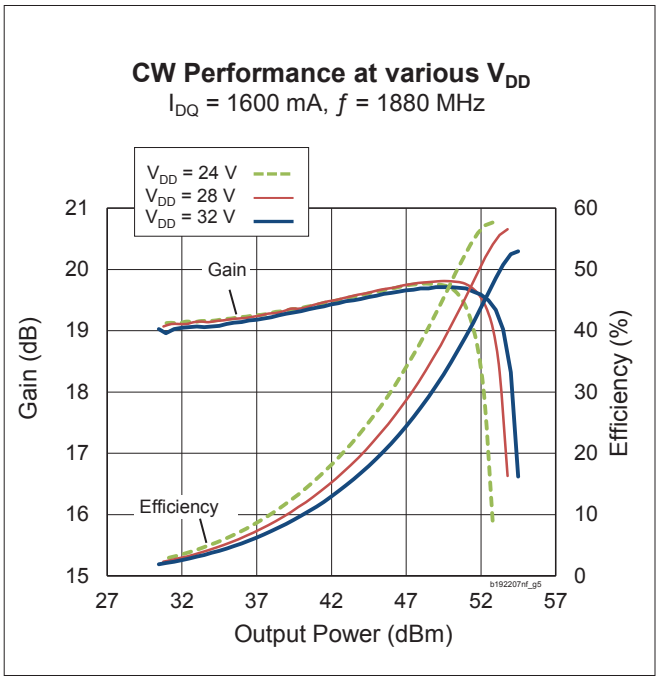
Type and Version	Order Code	Package Description	Shipping
PXFC192207NF V1 R500	PXFC192207NFV1R500XUMA1	PG-HBSOF-4-1, plastic package	Tape & Reel, 500 pcs

Typical Performance (data taken in a production test fixture)

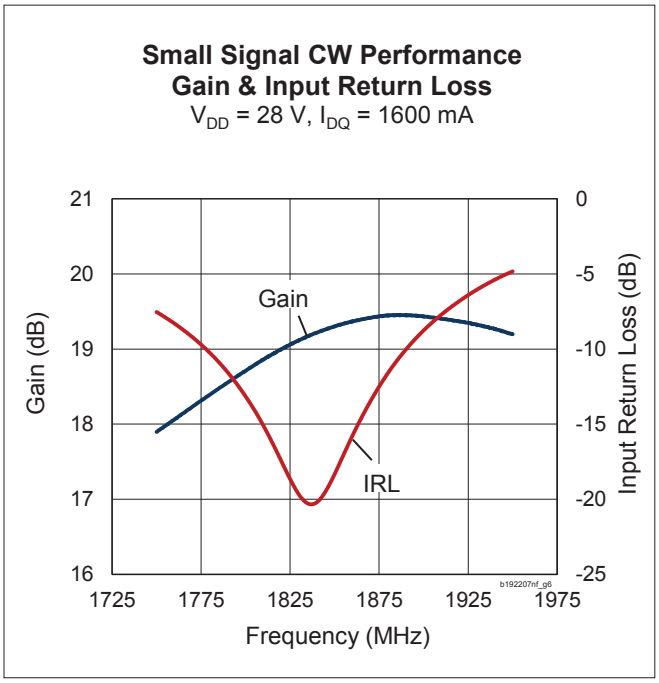








Typical Performance (cont.)

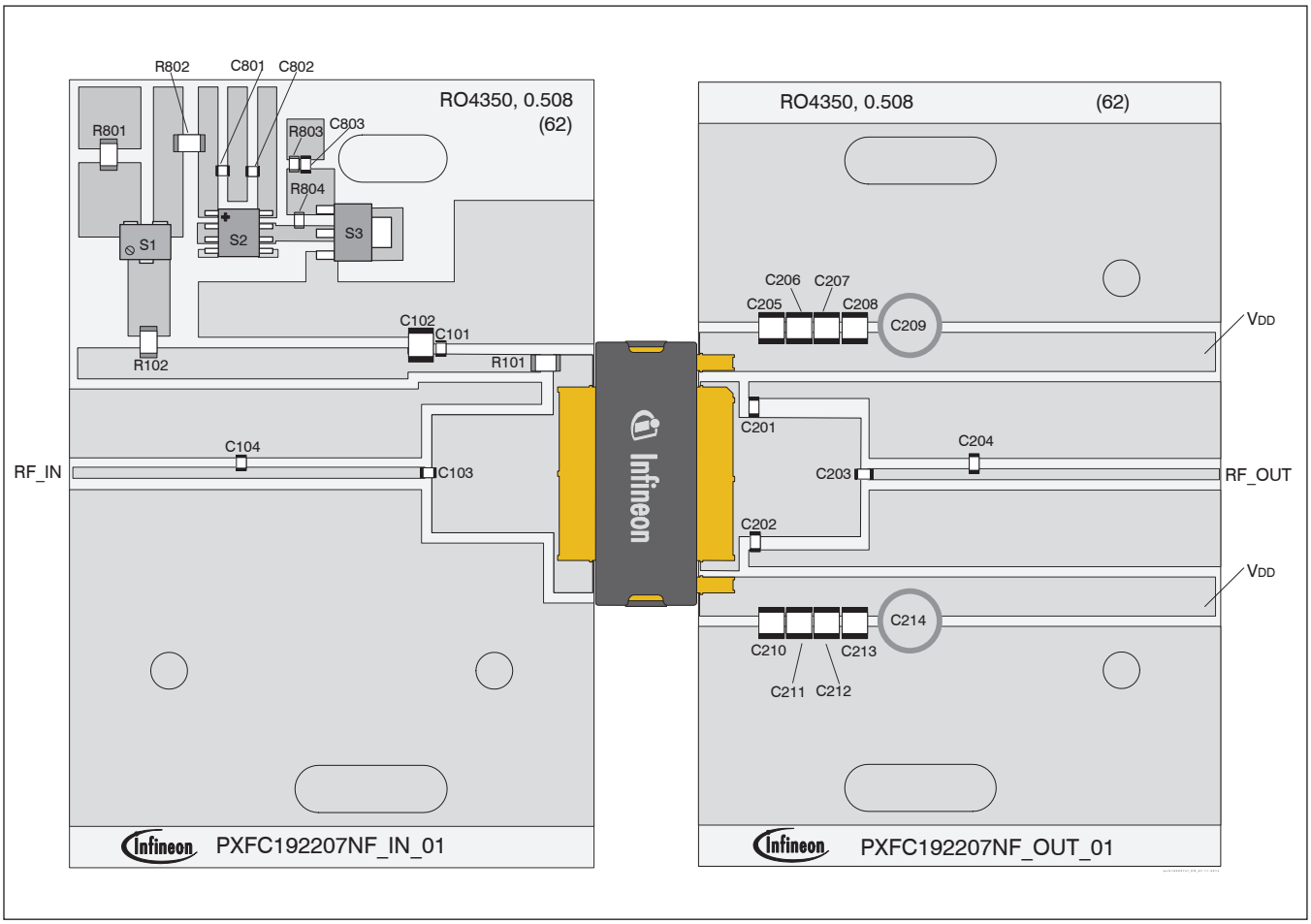


Load Pull Performance

Load Pull Performance – Pulsed CW signal: 10 µs, 10% duty cycle, 28 V, I_{DQ} = 1600 mA

		P_{1dB}									
		Max Output Power					Max PAE				
Freq [MHz]	Zs [Ω]	Zl [Ω]	Gain [dB]	P_{OUT} [dBm]	P_{OUT} [W]	PAE [%]	Zl [Ω]	Gain [dB]	P_{OUT} [dBm]	P_{OUT} [W]	PAE [%]
1805	1.1 – j3.9	0.7 – j3.5	16.9	54.6	289	51.4	1.7 – j2.9	19.9	52.7	187	64.2
1880	1.7 – j4.4	0.7 – j3.6	17.4	54.5	284	53.0	1.3 – j3.1	19.6	53.3	213	63.6
1930	2.6 – j4.9	0.7 – j3.6	17.3	54.4	274	50.9	1.3 – j2.9	20.1	52.4	175	61.8
1990	3.7 – j4.9	0.7 – j3.7	18	54.2	263	51.0	1.2 – j3.0	20.4	52.2	165	59.5

Reference Circuit , 1805 – 1880 MHz



Reference circuit assembly diagram (not to scale)

Reference Circuit (cont.)

Reference Circuit Assembly

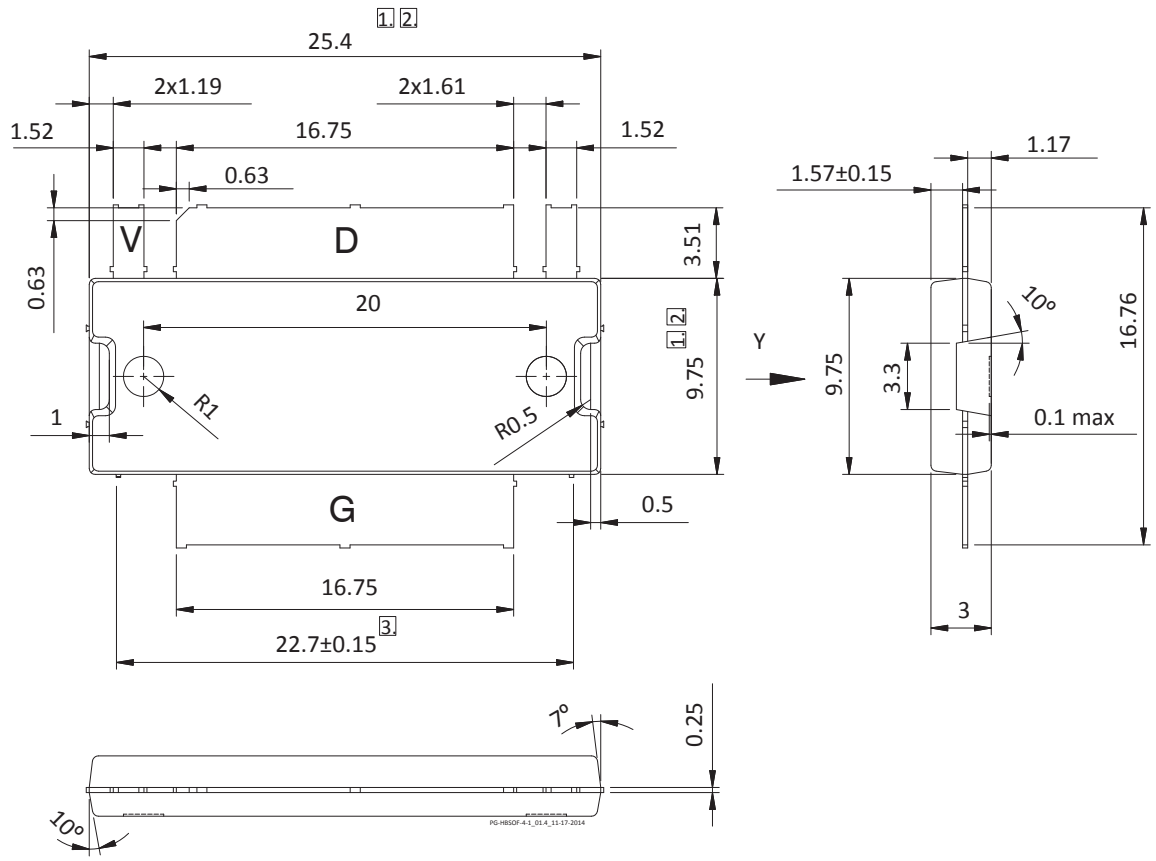
DUT	PXFC192207NF V1
Test Fixture Part No.	LTN/PXFC192207NF V1
PCB	Rogers 4350, 0.508 mm [0.020"] thick, 2 oz. copper, ε_r = 3.66, f = 1805 – 1880 MHz
Find Gerber files for this test fixture on the Infineon Web site at http://www.infineon.com/rfpower	

Components Information

Component	Description	Suggested Manufacturer	P/N
Input			
C101, C103	Capacitor, 18 pF	ATC	800A 180
C102	Capacitor, 10 µF	Taiyo Yuden	UMK325C7106MM-T
C104	Capacitor, 0.8 pF	ATC	800B 0R8
C801, C802, C803	Capacitor, 1000 pF	Panasonic Electronic Components	ECJ-1VB1H102K
R101	Resistor, 5.6 Ω	Panasonic Electronic Components	ERJ-8RQJ5R6V
R102	Resistor, 100 Ω	Panasonic Electronic Components	ERJ-8GEYJ101V
R801	Resistor, 10 Ω	Panasonic Electronic Components	ERJ-8GEYJ100V
R802	Resistor, 100 Ω	Panasonic Electronic Components	ERJ-8GEYJ101V
R803	Resistor, 1.3K Ω	Panasonic Electronic Components	ERJ-3GEYJ132V
R804	Resistor, 1.2K Ω	Panasonic Electronic Components	ERJ-3GEYJ122V
S1	Potentiometer, 2K Ω	Bourns Inc.	3224W-202ETR-ND
S2	Voltage Regulator	Texas Instruments	LM7805
S3	Transistor	Infineon Technologies	BCP56
Output			
C201, C202	Capacitor, 0.5 pF	ATC	800A 0R5
C203	Capacitor, 18 pF	ATC	800A 180
C204	Capacitor, 0.2 pF	ATC	800A 0R2
C205, C206, C207, C208, C210, C211, C212, C213	Capacitor, 10 µF	Taiyo Yuden	UMK325C7106MM-T
C209, C214	Capacitor, 10 µF	Panasonic Electronic Components	EEE-HB1H100AP

Package Outline Specifications

Package PG-HBSOF-4-1



See next page for Diagram Notes

Package Outline Specifications

VIEW Y

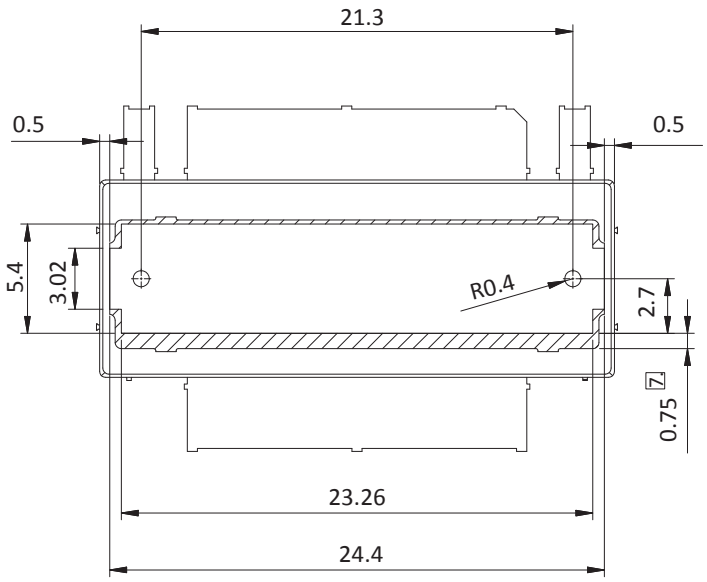


Diagram Notes–unless otherwise specified:

1. Mold protrusion of 0.30mm max per side not included
2. Dam Bar protrusion/ Metal protrusion shall not exceed 0.10mm max per side.
3. Metal protrusions are connected to source.
4. Interpret dimensions and tolerances per ISO 8015.
5. Dimensions are mm.
6. All tolerances ± 0.1mm unless specified otherwise.
7. Exposed metal surface pre-plated, may not be covered by mold compound.
8. Fillets and radii: all radii are 0.3 mm max.
9. All metal surfaces pre-plated, except area of cut.
10. Lead thickness: 0.25 mm.
11. Gold plating thickness: 0.25 micron [10 microinch] max.
12. Pins: D – drain; G – gate; S – source; V – V_{DD}.

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

Revision History

Revision	Date	Data Sheet Type	Page	Subjects (major changes since last revision)
01	2014-04-11	Advance	All	Data Sheet reflects advance specification for product development
01.1	2014-04-18	Advance	1 2	Corrected typo CCDR to CCDF in Features section, Corrected package to 500 pcs in ordering table
01.2	2014-04-25	Advance	3	Revised package outline
01.3	2014-07-28	Advance	3	Revised package outline & diagram notes
02	2014-07-31	Production	All All	Data Sheet reflects released product specification Revised all data and includes final specs, typical performance graphs, loadpull, reference circuit, updated package outline
02.1	2014-11-18	Production	7	Updated package outline & diagram notes

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highpowerRF@infineon.com

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

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