

DC Characteristics (each side)

Characteristic	Conditions	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}, I_{DS} = 10\text{ mA}$	$V_{(BR)DSS}$	65	—	—	V
Drain Leakage Current	$V_{DS} = 28\text{ V}, V_{GS} = 0\text{ V}$	I_{DSS}	—	—	0.1	μA
	$V_{DS} = 63\text{ V}, V_{GS} = 0\text{ V}$	I_{DSS}	—	—	1.0	μA
Gate Leakage Current	$V_{GS} = 10\text{ V}, I_{DS} = 0\text{ V}$	I_{GSS}	—	—	—	μA
On-State Resistance (main)	$V_{GS} = 10\text{ V}, V_{DS} = 0.1\text{ V}$	$R_{DS(on)}$	—	0.8	—	Ω
	(peak) $V_{GS} = 10\text{ V}, V_{DS} = 0.1\text{ V}$	$R_{DS(on)}$	—	0.22	—	Ω
Operating Gate Voltage (main)	$V_{DS} = 28\text{ V}, I_{DQ} = 85\text{ mA}$	V_{GS}	2.5	2.75	3.0	V
	(peak) $V_{DS} = 28\text{ V}, I_{DQ} = 300\text{ mA}$	V_{GS}	2.3	2.7	3.1	V

Maximum Ratings

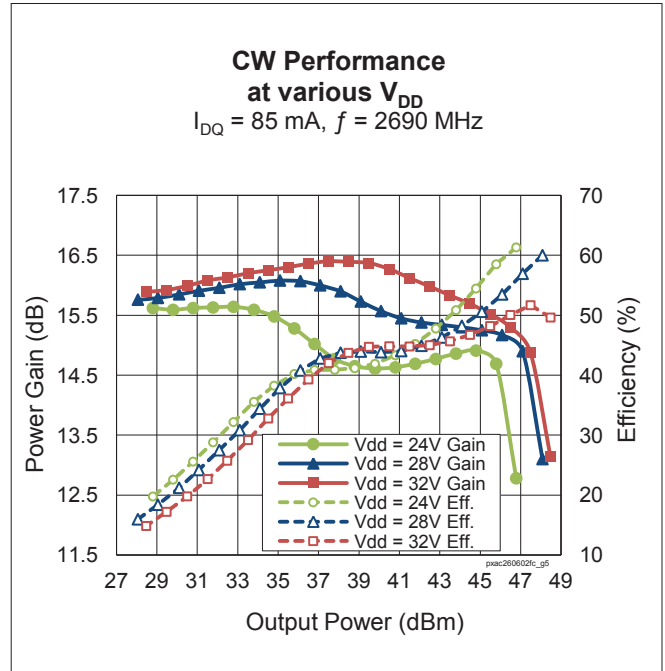
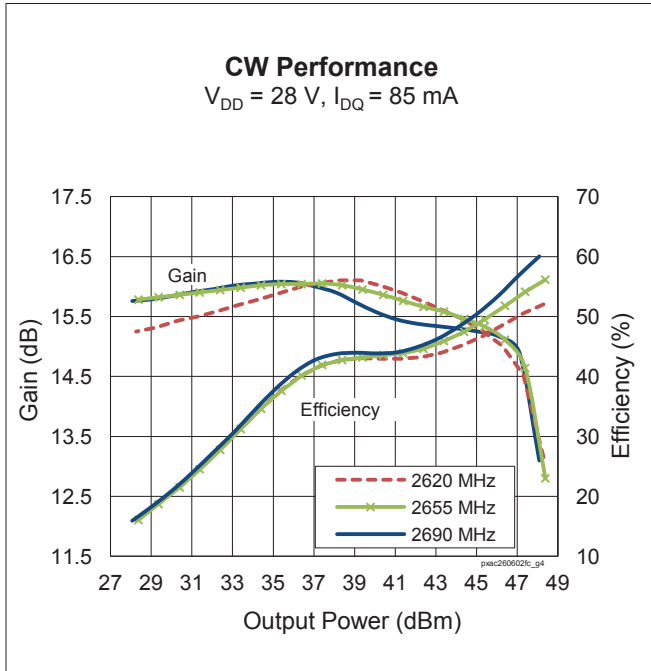
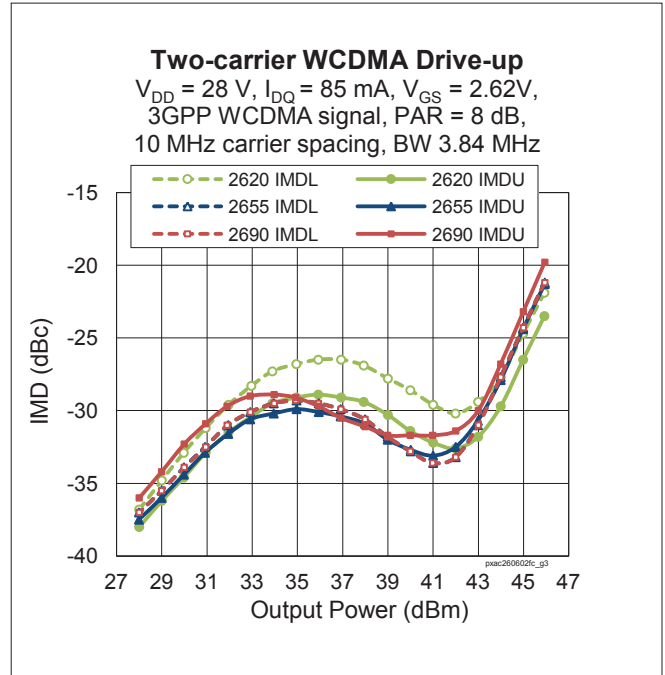
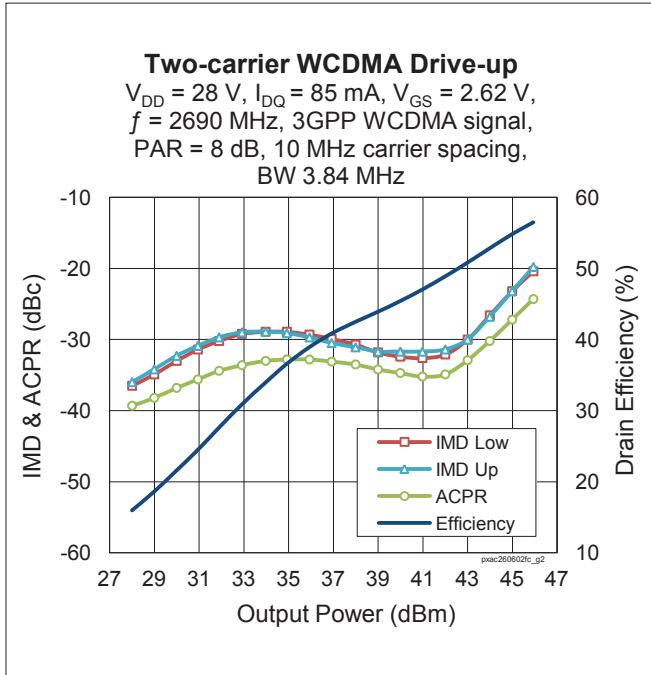
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	65	V
Gate-Source Voltage	V_{GS}	-6 to +10	V
Operating Voltage	V_{DD}	0 to +32	V
Junction Temperature	T_J	225	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance (main, $T_{CASE} = 70^{\circ}\text{C}$, 5 W CW)	$R_{\theta JC}$	4.1	$^{\circ}\text{C/W}$
	(dohertry, $T_{CASE} = 70^{\circ}\text{C}$, 20 W CW)	$R_{\theta JC}$	2.0

Ordering Information

Type and Version	Order Code	Package Description	Shipping
PXAC260602FC V1 R0	PXAC260602FC-V1-R0	H-37248-4, earless flange	Tape & Reel, 50 pcs
PXAC260602FC V1 R250	PXAC260602FC-V1-R250	H-37248-4, earless flange	Tape & Reel, 250 pcs

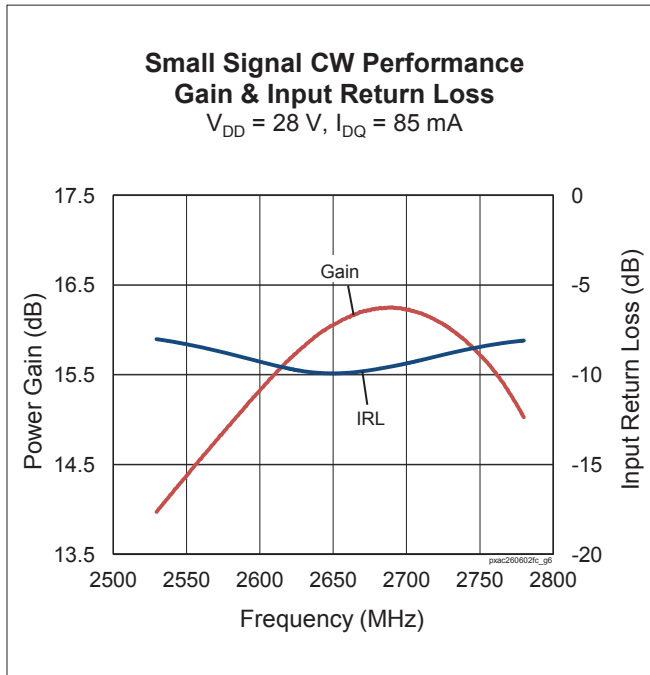


Typical Performance (data taken in a production test fixture)





Typical Performance (cont.)



Load Pull Performance

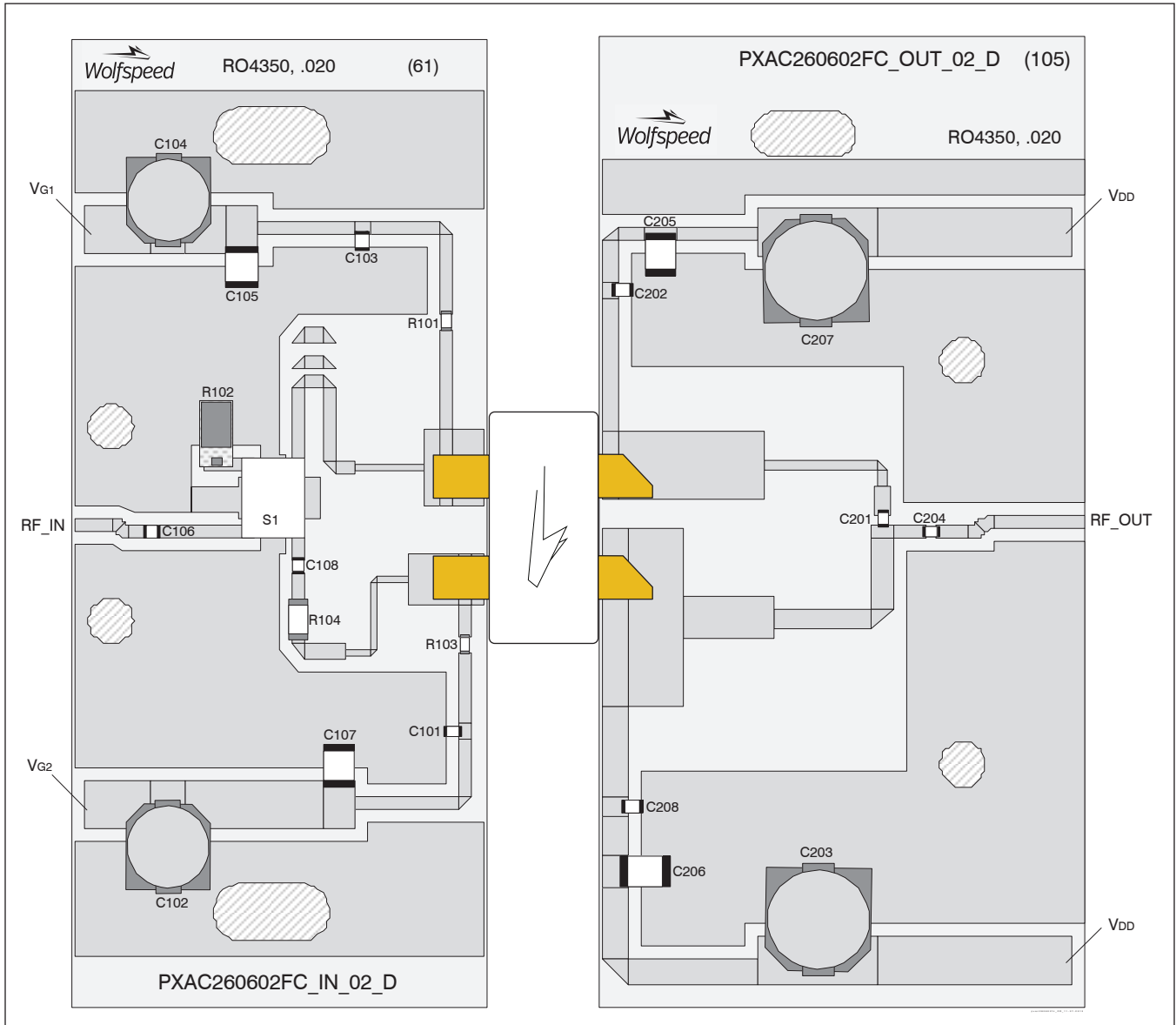
Main Side Load Pull Performance – Pulsed CW signal: 10 μs , 10% duty cycle, 28 V, 80 mA

Freq [MHz]	Z_s [Ω]	P1dB									
		Max Output Power					Max PAE				
		Z_I [Ω]	Gain [dB]	P_{OUT} [dBm]	P_{OUT} [W]	PAE [%]	Z_I [Ω]	Gain [dB]	P_{OUT} [dBm]	P_{OUT} [W]	PAE [%]
2490	9.0 – j33	12.8 – j9.5	19.2	42.84	19.2	54.2	5.8 – j4.4	21.9	41.49	14.1	68.7
2620	25 – j47	13.9 – j10.6	18.8	43.15	20.6	58.7	8.9 – j6.8	20.4	42.24	16.7	66.4
2690	35 – j52	12.7 – j13.0	18.6	42.76	18.9	55.4	6.8 – j9.2	20.6	41.73	14.9	65.6

Peak Side Load Pull Performance – Pulsed CW signal: 10 μs , 10% duty cycle, 28 V, 250 mA

Freq [MHz]	Z_s [Ω]	P1dB									
		Max Output Power					Max PAE				
		Z_I [Ω]	Gain [dB]	P_{OUT} [dBm]	P_{OUT} [W]	PAE [%]	Z_I [Ω]	Gain [dB]	P_{OUT} [dBm]	P_{OUT} [W]	PAE [%]
2490	4.1 – j13.1	3.7 – j5.2	16.7	48.44	70	56.0	6.2 – j1.3	18.9	46.59	46	63.4
2620	6.5 – j14.8	3.7 – j6.5	17	48.28	67	55.4	5.9 – j3.7	19.1	46.96	50	63.1
2690	9.0 – j17.8	3.7 – j6.1	17.6	48.11	65	56.2	5.7 – j2.4	20.9	46.30	43	64.6

Reference Circuit , 2620 – 2690 MHz



Reference circuit assembly diagram (not to scale)



Reference Circuit (cont.)

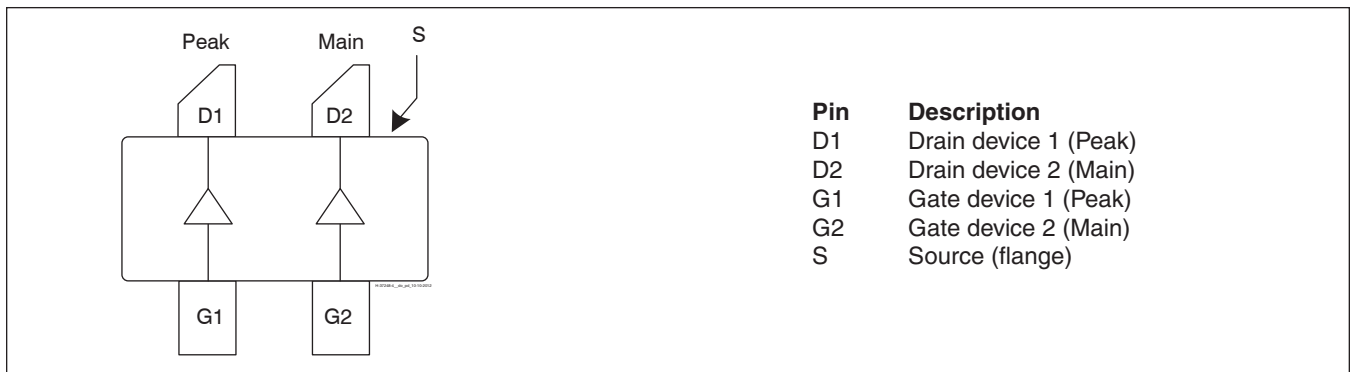
Reference Circuit Assembly

DUT	PXAC260602FC V1
Test Fixture Part No.	LTA/PXAC260602FC V1
PCB	Rogers 4350, 0.508 mm [0.020"] thick, 2 oz. copper, $\epsilon_r = 3.66$, $f = 2620 - 2690$ MHz
Find Gerber files for this test fixture on the Wolfspeed Web site at www.wolfspeed.com/RF	

Components Information

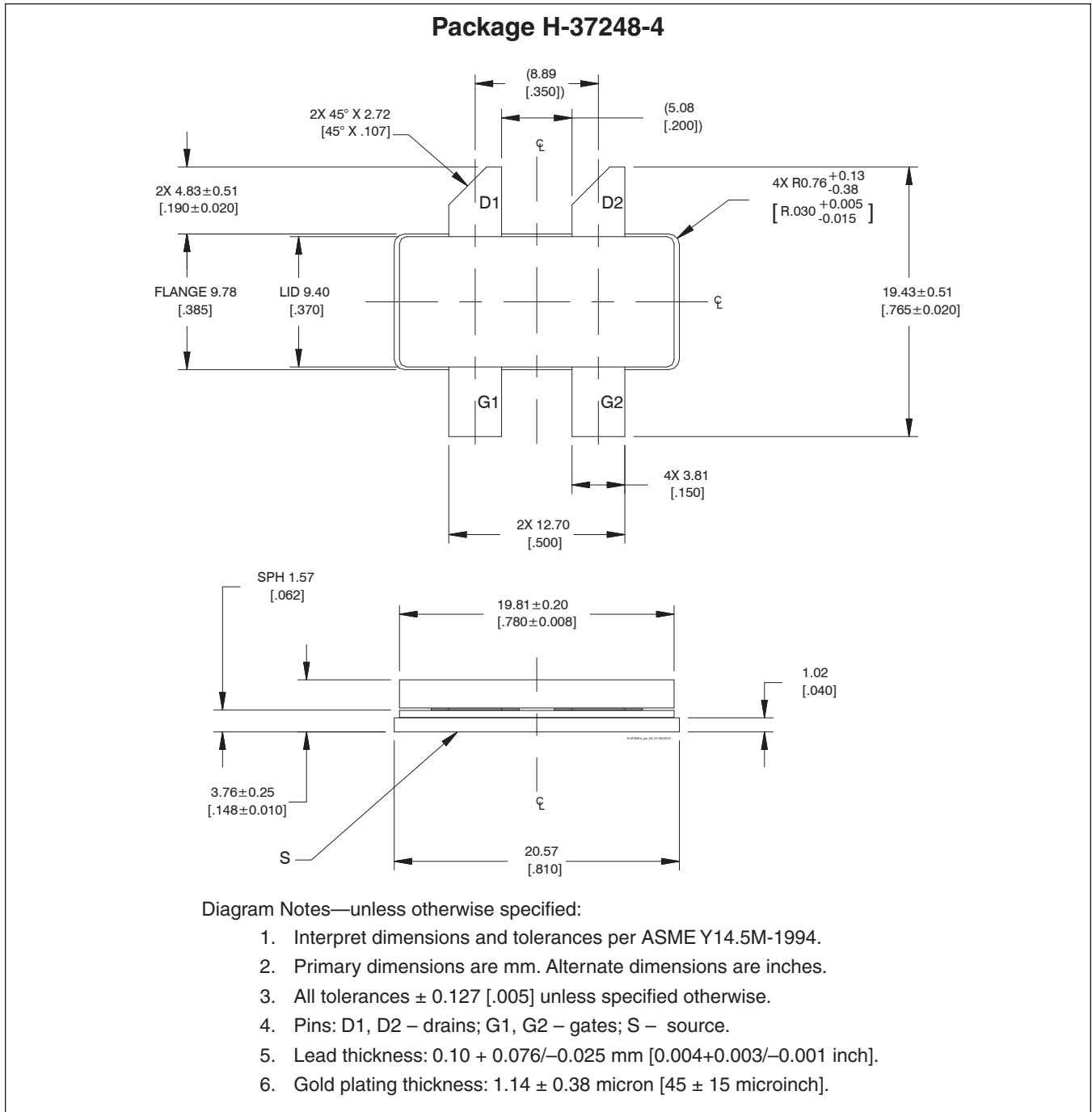
Component	Description	Suggested Manufacturer	P/N
Input			
C101, C103, C106, C108	Capacitor, 18 pF	ATC	ATC800A180JT250T
C102, C104	Capacitor, 10 μ F	Panasonic Electronic Components	EEE-HB1H100AP
C105, C107	Capacitor, 10 μ F	Taiyo Yuden	UMK325C7106MM-T
R101, R103	Resistor, 10 Ω	Panasonic Electronic Components	ERJ-3GEYJ100V
R102	Resistor, 50 Ω	Anaren	C16A5024
R104	Resistor, 20 Ω	Panasonic Electronic Components	ERJ-8GEYJ200V
S1	Directional Coupler, 5dB	Anaren	X3C25P1-05S
Output			
C201, C202, C204, C208	Capacitor, 18 pF	ATC	ATC800A180JT250T
C203, C207	Capacitor, 100 μ F	Panasonic Electronic Components	EEE-FP1V101AP
C205, C206	Capacitor, 10 μ F	Taiyo Yuden	UMK325C7106MM-T

Pinout Diagram (top view)



Lead connections for PXAC260602FC

Package Outline Specifications



Revision History

Revision	Date	Data Sheet Type	Page	Subjects (major changes since last revision)
01	2013-10-14	Advance	All	Data Sheet reflects advance specification for product development
02	2013-12-02	Production	All	Data Sheet reflects released product specification
02.1	2013-12-12	Production	1	Revised ESD classification
02.2	2014-05-14	Production	2 6	Revised junction temperature in Maximum Ratings table Corrected naming typo in Pinout Diagram
02.3	2015-12-23	Production	2	DC Characteristic table
02.4	2016-06-22	Production	2	Updated ordering information
03	2018-07-03	Production	All	Converted to Wolfspeed Data Sheet

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Notes

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