RQA0009SXAQS

Silicon N-Channel MOS FET

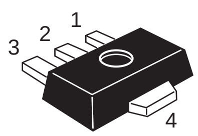
R07DS0493EJ0200
(Previous: REJ03G1566-0100)
Rev.2.00
Jun 28, 2011

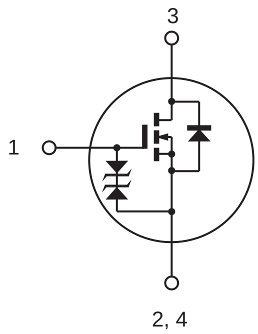
Features

- High Output Power, High Gain, High Efficiency
  Pout = +37.8 dBm, Linear Gain = 18 dB, PAE = 65%
  (V_{DS} = 6 V, f = 520 MHz)
- Compact package capable of surface mounting
- Electrostatic Discharge Immunity Test
  (IEC Standard, 61000-4-2, Level4)

Outline

RENESAS Package code: PLZZ0004CA-A
(Package Name : UPAK)





1. Gate
2. Source
3. Drain
4. Source

Note: Marking is "SX".

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	16	V
Gate to source voltage	V_{GSS}	±5	V
Drain current	I_D	3.2	A
Channel dissipation	Pch^{note}	15	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: Value at Tc = 25°C

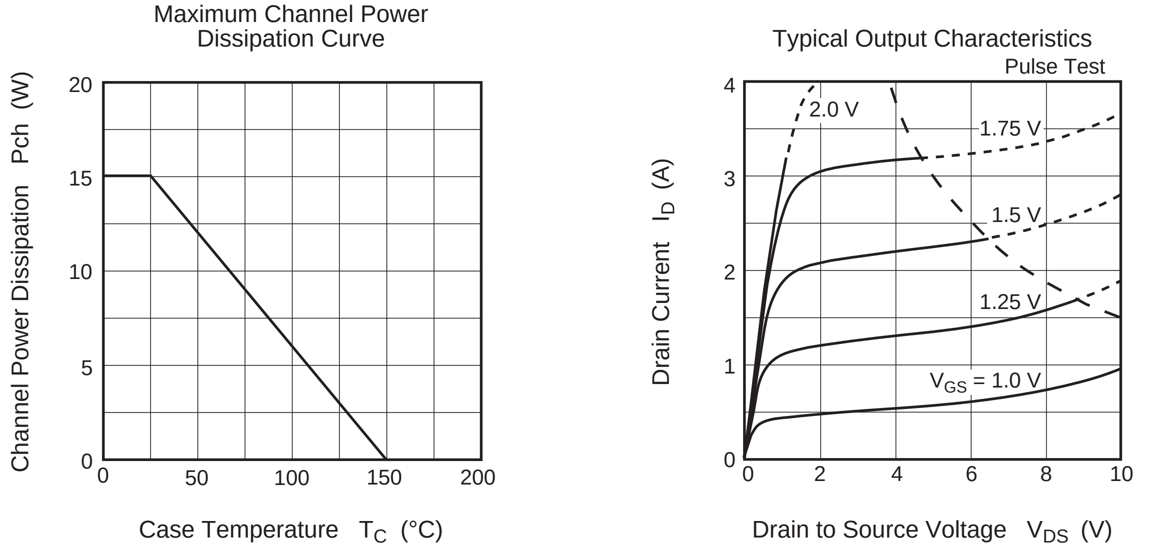
This device is sensitive to electro static discharge. An adequate careful handling procedure is requested.

Electrical Characteristics

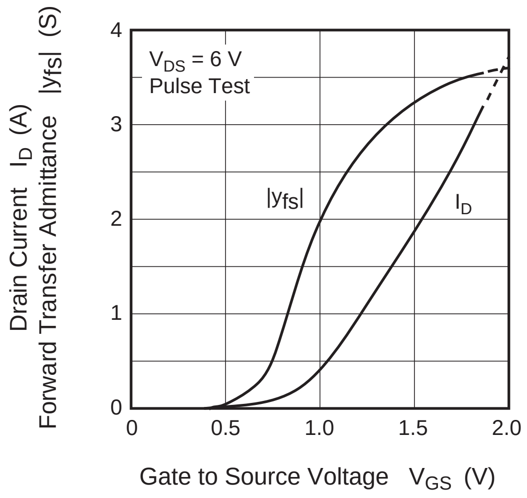
(Ta = 25°C)

Item	Symbol	Min.	Typ	Max.	Unit	Test Conditions
Zero gate voltage drain current	I_{DSS}	—	—	15	μA	V_{DS} = 16 V, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±2	μA	V_{GS} = ±5 V, V_{DS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	0.15	0.5	0.8	V	V_{DS} = 6 V, I_D = 1 mA
Forward Transfer Admittance	|yfs|	—	3.2	—	S	V_{DS} = 6 V, I_D = 1.6 A
Input capacitance	Ciss	—	76	—	pF	V_{GS} = 5 V, V_{DS} = 0, f = 1 MHz
Output capacitance	Coss	—	40	—	pF	V_{DS} = 6 V, V_{GS} = 0, f = 1 MHz
Reverse transfer capacitance	Crss	—	3.5	—	pF	V_{DG} = 6 V, V_{GS} = 0, f = 1 MHz
Output Power	Pout	—	33.1	—	dBm	V_{DS} = 3.6 V, I_{DQ} = 200 mA f = 155 MHz, Pin = +20 dBm (100 mW)
		—	2.0	—	W	
Power Added Efficiency	PAE	—	65.7	—	%	
Output Power	Pout	—	38.6	—	dBm	V_{DS} = 7.0 V, I_{DQ} = 200 mA f = 155 MHz, Pin = +25 dBm (316 mW)
		—	7.2	—	W	
Power Added Efficiency	PAE	—	62.5	—	%	
Output Power	Pout	—	33.0	—	dBm	V_{DS} = 3.6 V, I_{DQ} = 200 mA f = 360 MHz, Pin = +20 dBm (100 mW)
		—	2.0	—	W	
Power Added Efficiency	PAE	—	68.5	—	%	
Output Power	Pout	—	38.8	—	dBm	V_{DS} = 7.0 V, I_{DQ} = 200 mA f = 360 MHz, Pin = +25 dBm (316 mW)
		—	7.6	—	W	
Power Added Efficiency	PAE	—	69.2	—	%	
Output Power	Pout	—	33.1	—	dBm	V_{DS} = 3.6 V, I_{DQ} = 200 mA f = 465 MHz, Pin = +20 dBm (100 mW)
		—	2.1	—	W	
Power Added Efficiency	PAE	—	66.4	—	%	
Output Power	Pout	—	39.0	—	dBm	V_{DS} = 7.0 V, I_{DQ} = 200 mA f = 465 MHz, Pin = +25 dBm (316 mW)
		—	8.0	—	W	
Power Added Efficiency	PAE	—	67.9	—	%	
Output Power	Pout	—	35.2	—	dBm	V_{DS} = 4.8 V, I_{DQ} = 300 mA f = 465 MHz, Pin = +17 dBm (50 mW)
		—	3.3	—	W	
Power Added Efficiency	PAE	—	60	—	%	
Output Power	Pout	—	37.8	—	dBm	V_{DS} = 6 V, I_{DQ} = 180 mA f = 520 MHz, Pin = +25 dBm (316 mW)
		—	6.0	—	W	
Power Added Efficiency	PAE	—	65	—	%	

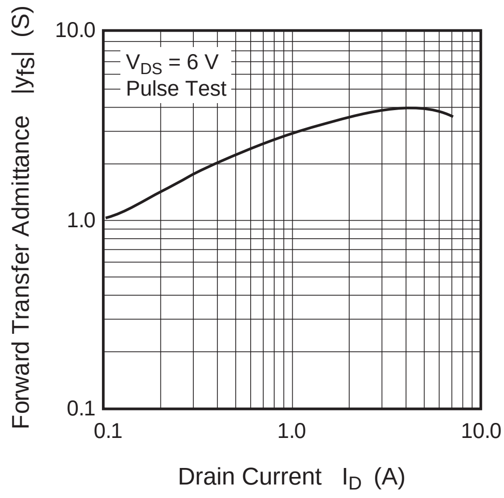
Main Characteristics



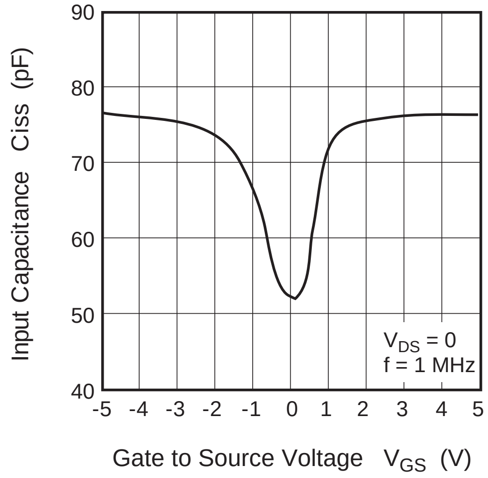
Typical Transfer Characterisitics



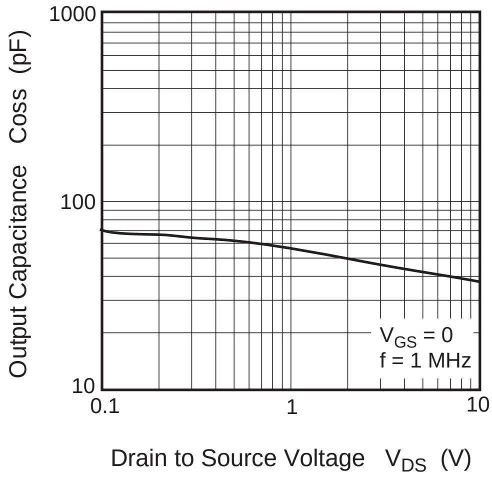
Forward Transfer Admittance vs. Drain Current



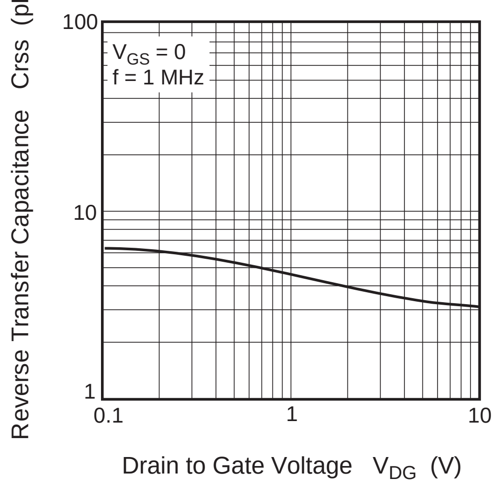
Input Capacitance vs. Gate to Source Voltage



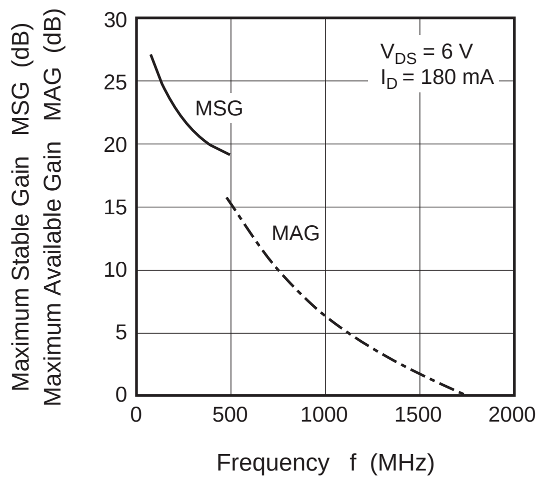
Output Capacitance vs. Drain to Source Voltage



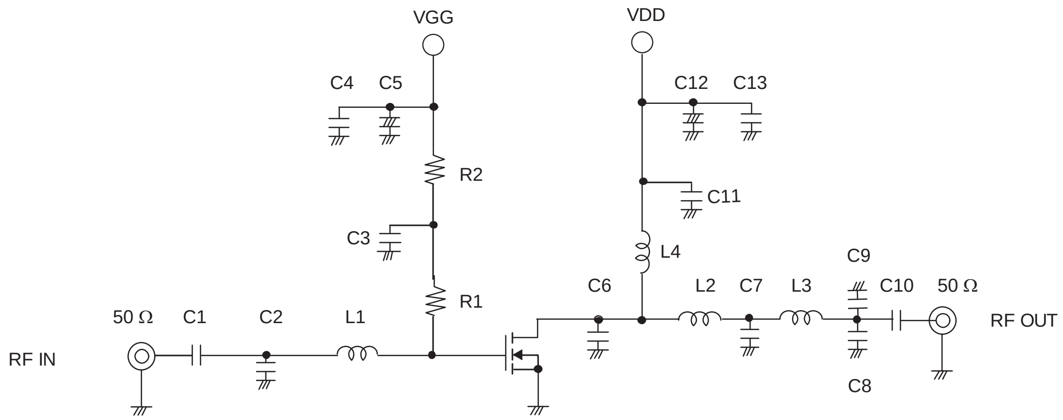
Reverse Transfer Capacitance vs. Drain to Gate Voltage



MSG, MAG vs. Frequency



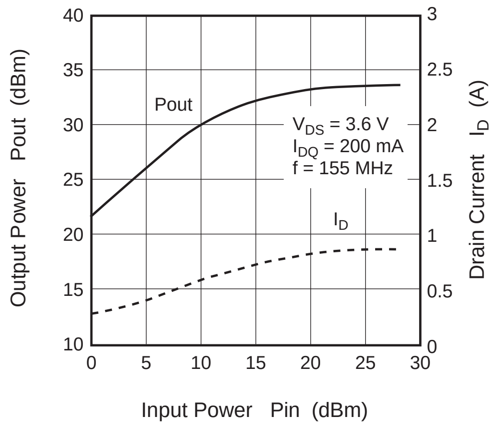
Evaluation Circuit 1 (@V_{DD} = 3.6 & 7.0V Tuning, f = 155 MHz)



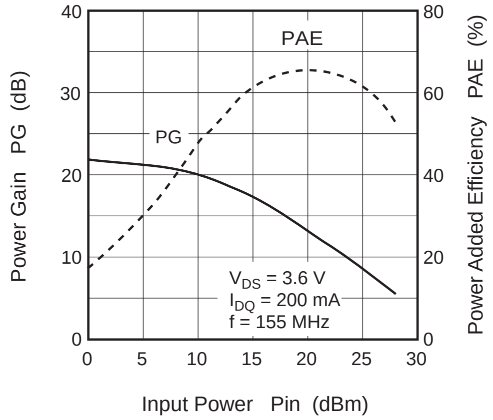
C1, C3, C10, C11	100 pF Chip Capacitor
C2	27 pF Chip Capacitor
C4, C13	1000 pF Chip Capacitor
C5, C12	1 μF/+16V Chip Tantalum Capacitor
C6	18 pF Chip Capacitor
C7	22 pF Chip Capacitor
C8	56 pF Chip Capacitor
C9	4 pF Chip Capacitor

L1	33 nH Chip Inductor
L2	3.6 nH Chip Inductor
L3	7.5 nH Chip Inductor
L4	8 Turns D: 0.5 mm, ϕ 2.4 mm Enamel Wire
R1	33 Ω Chip Resistor
R2	1 kΩ Chip Resistor

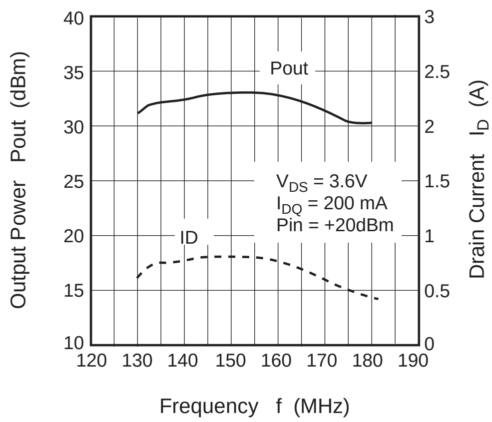
Output Power, Drain Current
vs. Input Power



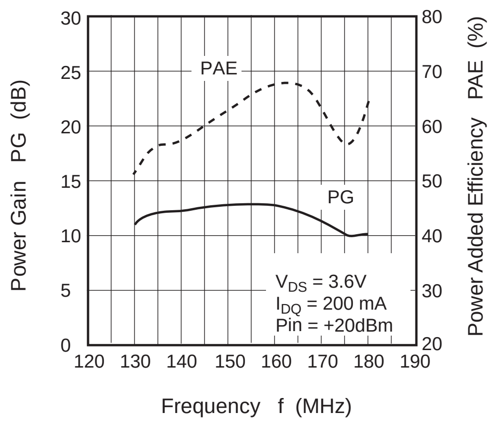
Power Gain, Power Added Efficiency
vs. Input Power



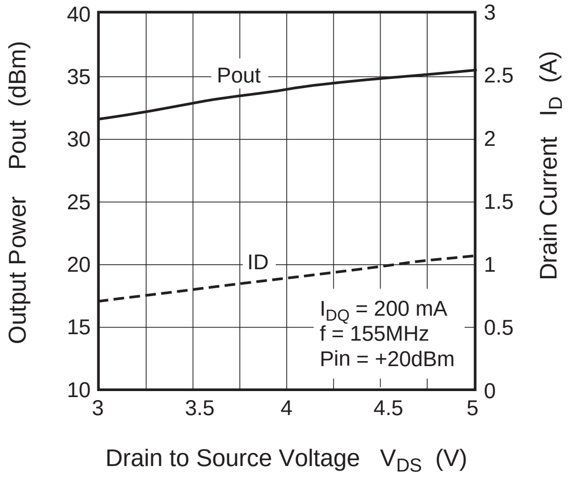
Output Power, Drain Current
vs. Frequency



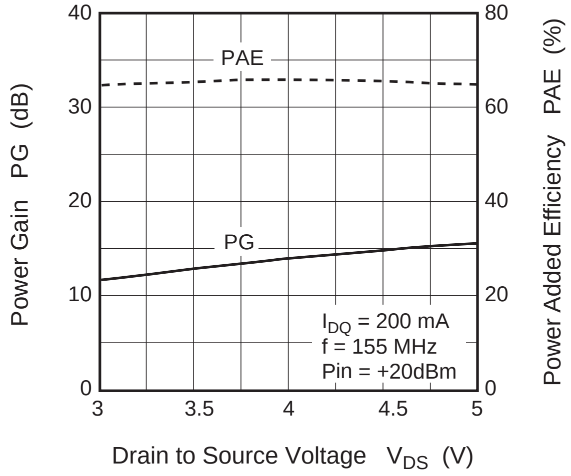
Power Gain, Power Added Efficiency
vs. Frequency



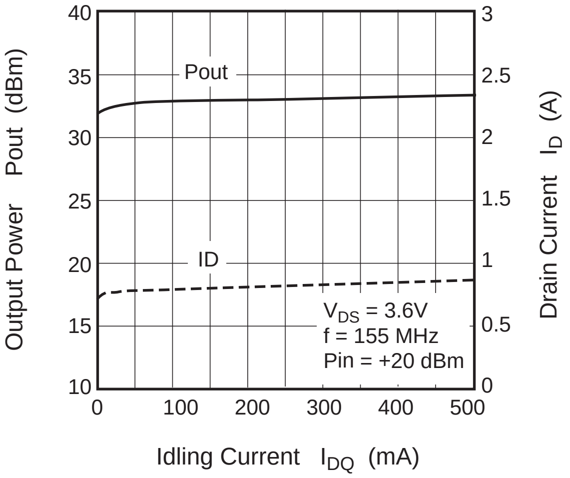
Output Power, Drain Current
vs. Drain to Source Voltage



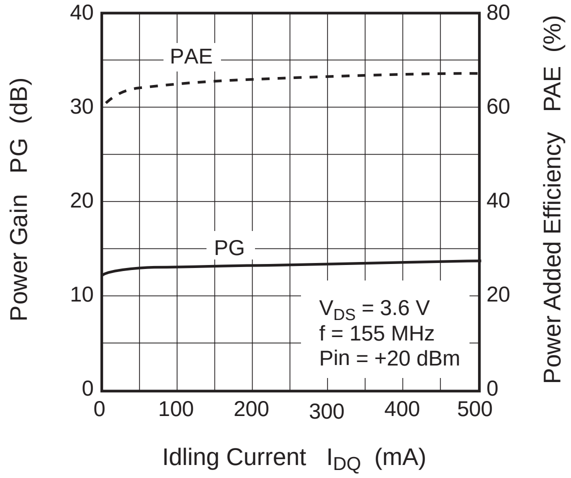
Power Gain, Power Added Efficiency
vs. Drain to Source Voltage



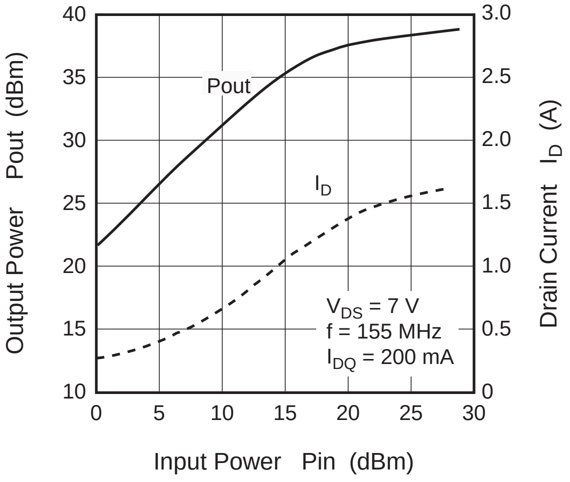
Output Power, Drain Current
vs. Idling Current



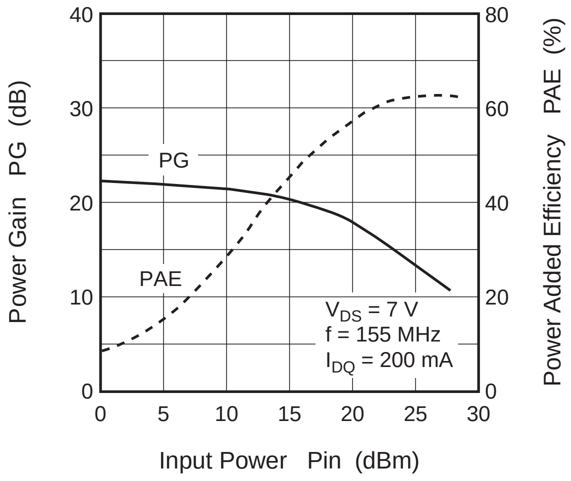
Power Gain, Power Added Efficiency
vs. Idling Current



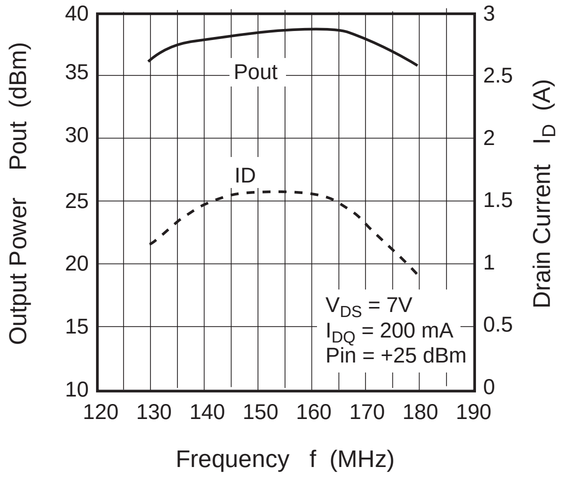
Output Power, Drain Current
vs. Input Power



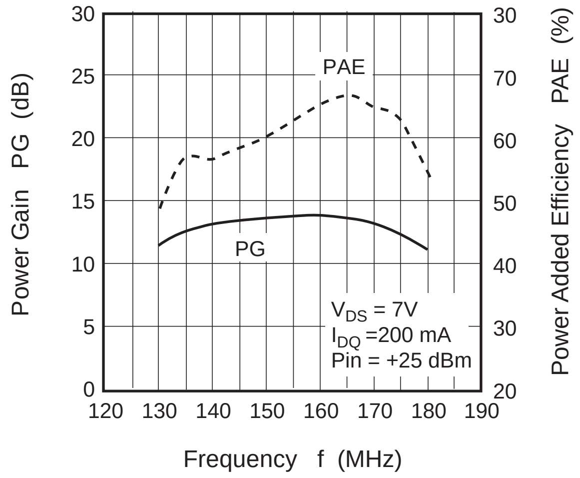
Power Gain, Power Added Efficiency
vs. Input Power



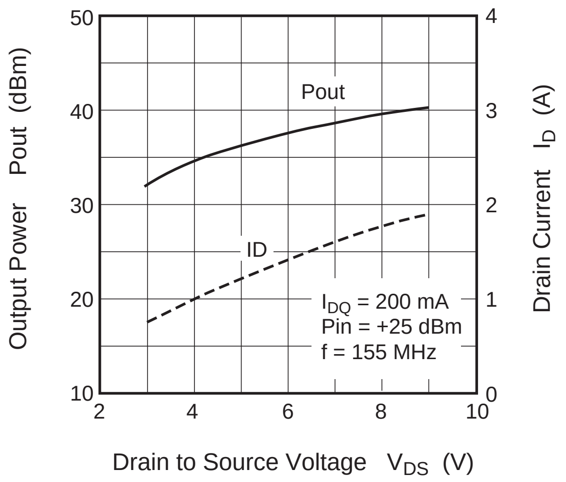
Output Power, Drain Current vs. Frequency



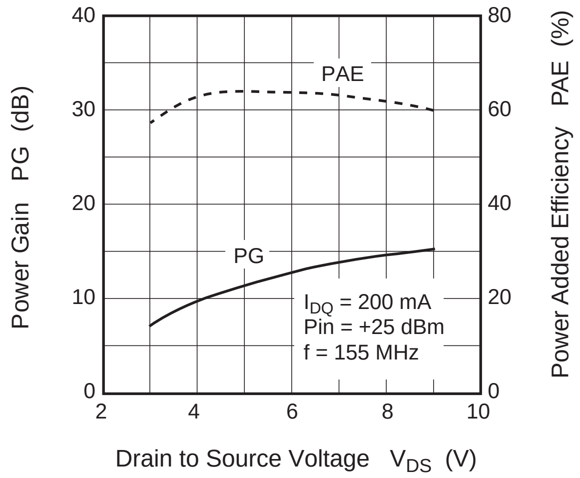
Power Gain, Power Added Efficiency vs. Frequency



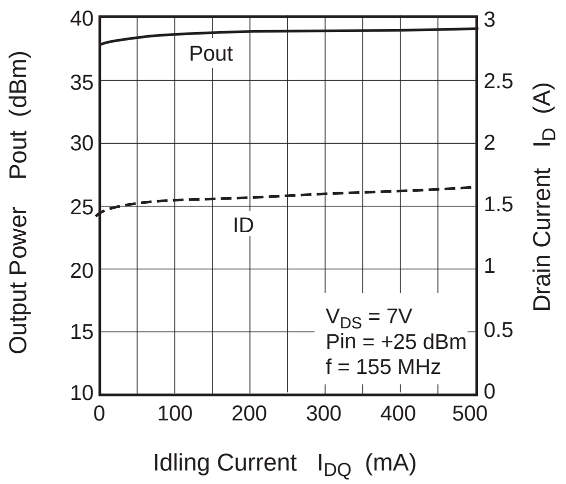
Output Power, Drain Current vs. Drain to Source Voltage



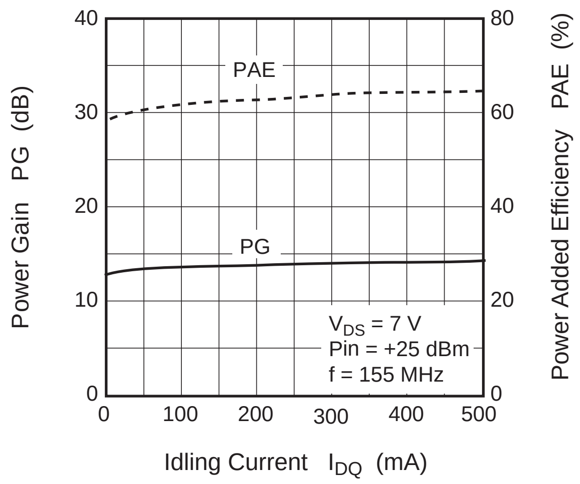
Power Gain, Power Added Efficiency vs. Drain to Source Voltage



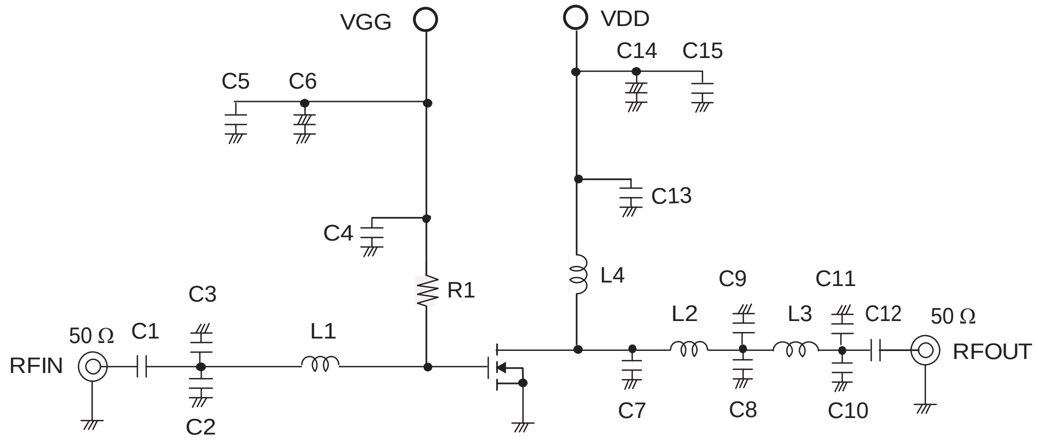
Output Power, Drain Current vs. Idling Current



Power Gain, Power Added Efficiency vs. Idling Current

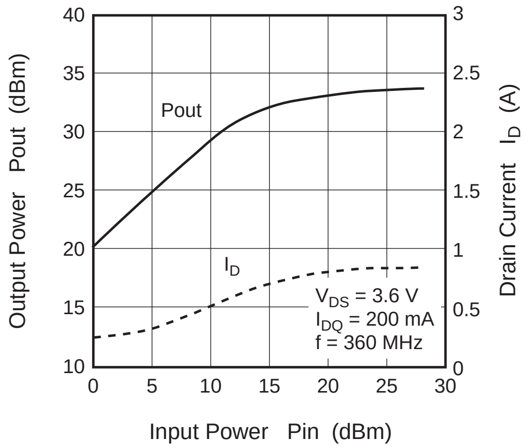


Evaluation Circuit 1 (@V_{DD} = 3.6 & 7.0V Tuning, f = 360 MHz)

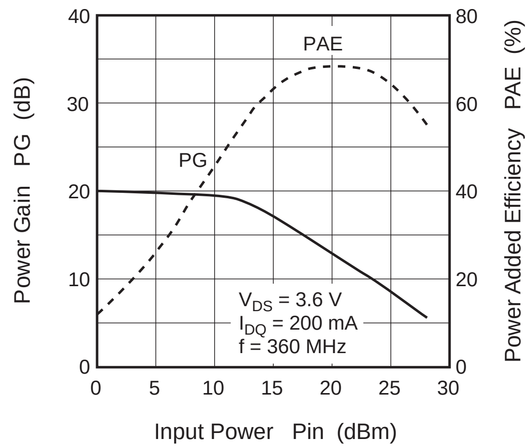


C1	22 pF Chip Capacitor	L1	6.8 nH Chip Inductor
C2, C3,C8,C10	10 pF Chip Capacitor	L2	1.0 nH Chip Inductor
C4, C13	100 pF Chip Capacitor	L3	1.6 nH Chip Inductor
C5, C12, C15	1000 pF Chip Capacitor	L4	8 Turns D: 0.5 mm, ϕ 2.4 mm Enamel Wire
C6, C14	1 μF / +16V Chip Tantalum Capacitor	R1	6.8k Ω Chip Resistor
C7	5 pF Chip Capacitor		
C9, C11	12 pF Chip Capacitor		

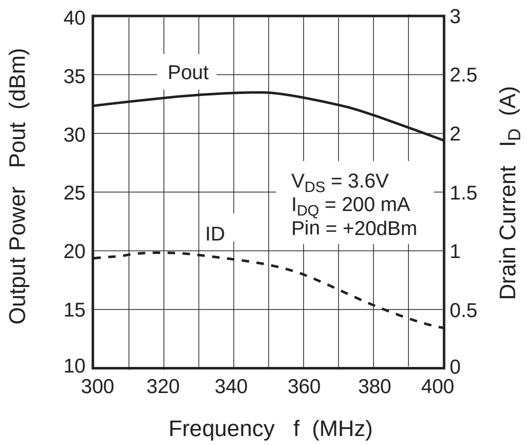
Output Power, Drain Current
vs. Input Power



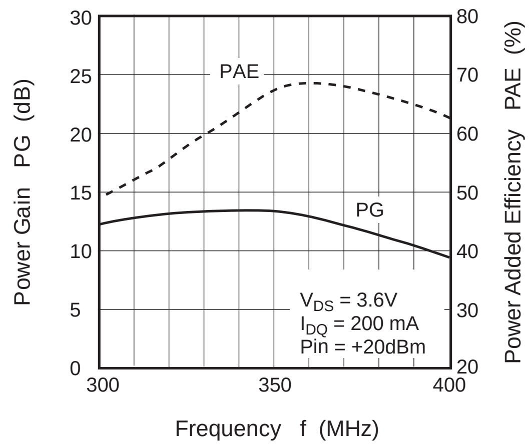
Power Gain, Power Added Efficiency
vs. Input Power



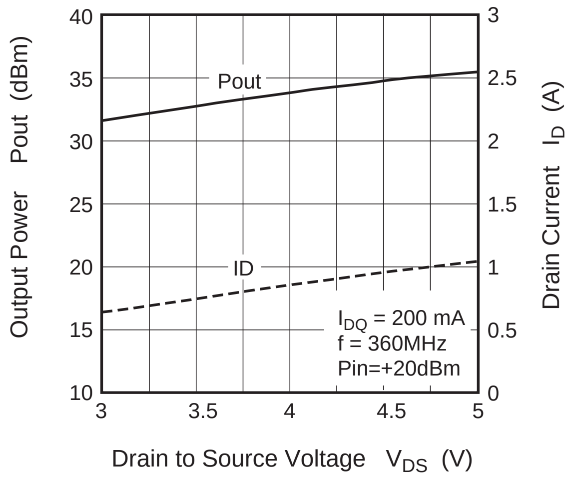
Output Power, Drain Current
vs. Frequency



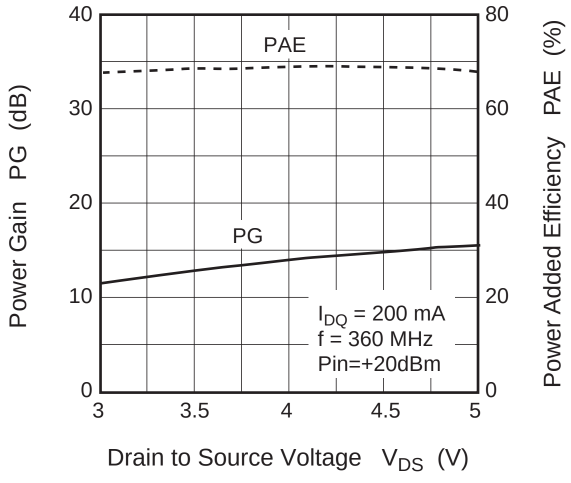
Power Gain, Power Added Efficiency
vs. Frequency



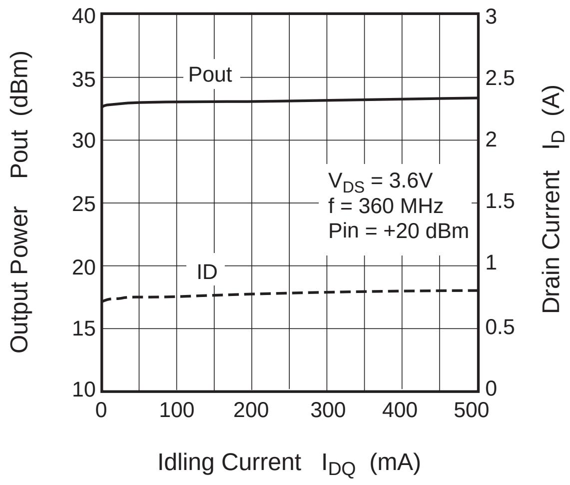
Output Power, Drain Current
vs. Drain to Source Voltage



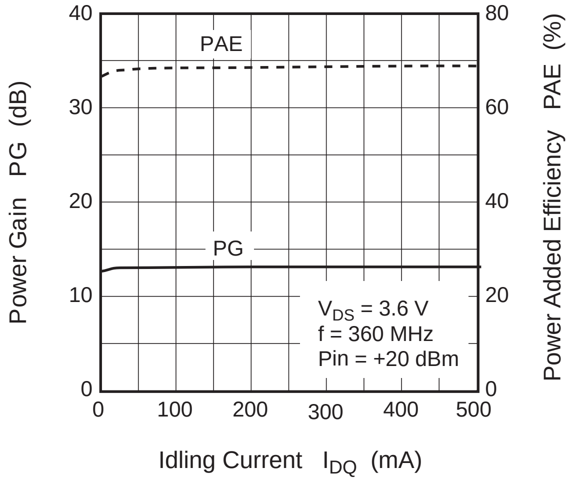
Power Gain, Power Added Efficiency
vs. Drain to Source Voltage



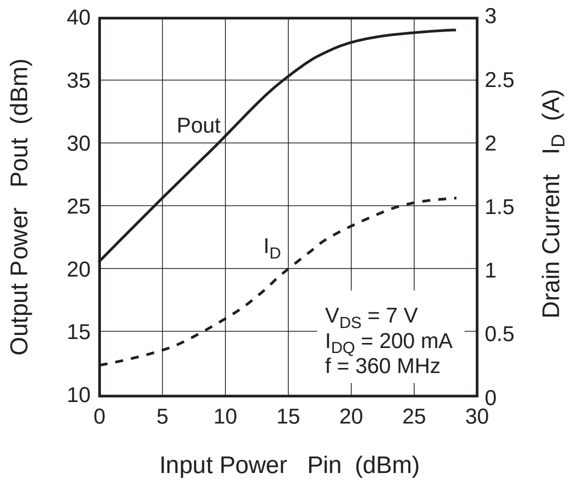
Output Power, Drain Current
vs. Idling Current



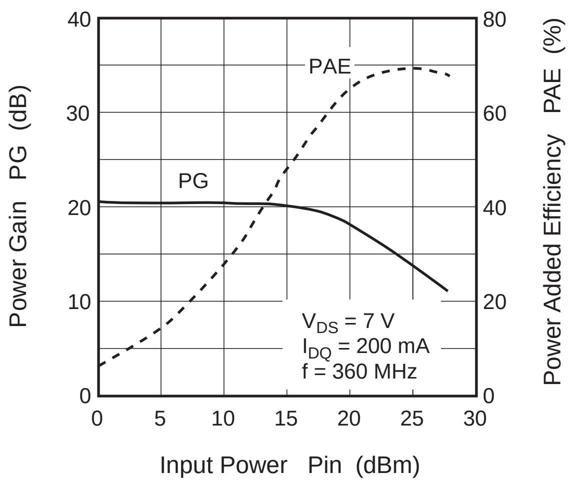
Power Gain, Power Added Efficiency
vs. Idling Current



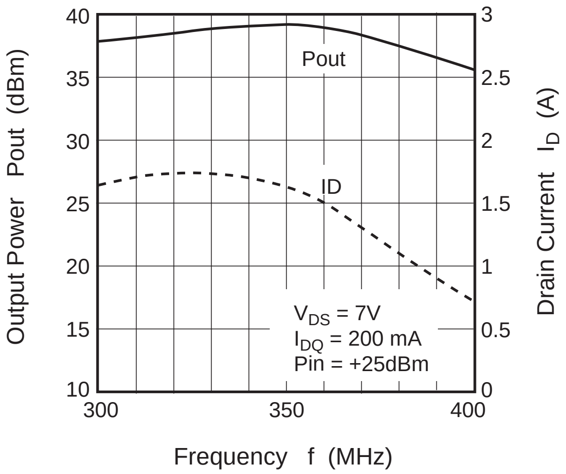
Output Power, Drain Current
vs. Input Power



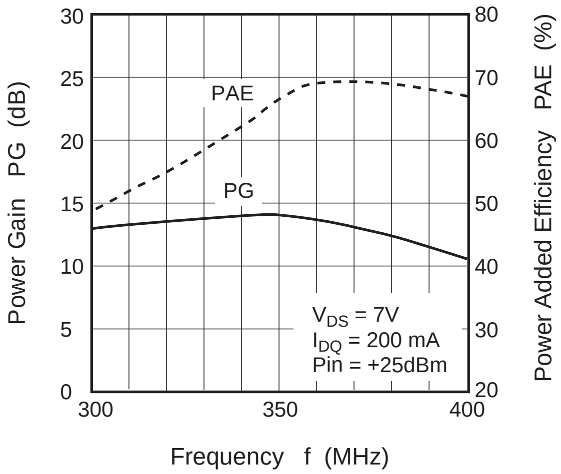
Power Gain, Power Added Efficiency
vs. Input Power



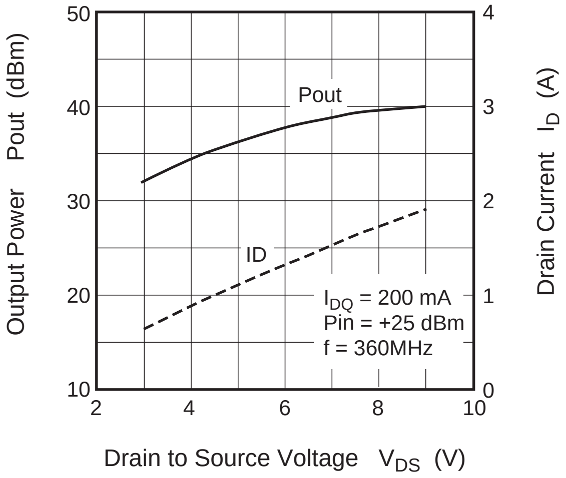
Output Power, Drain Current
vs. Frequency



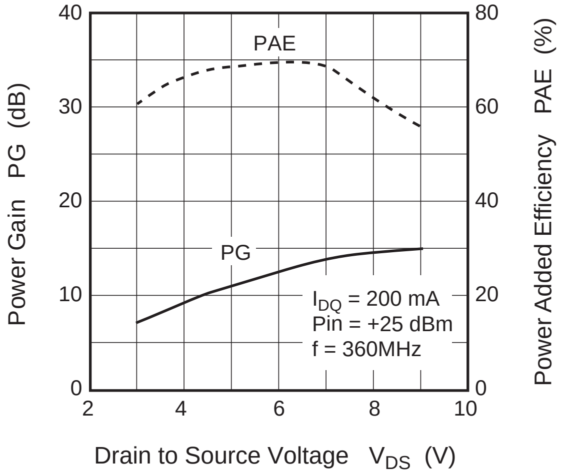
Power Gain, Power Added Efficiency
vs. Frequency



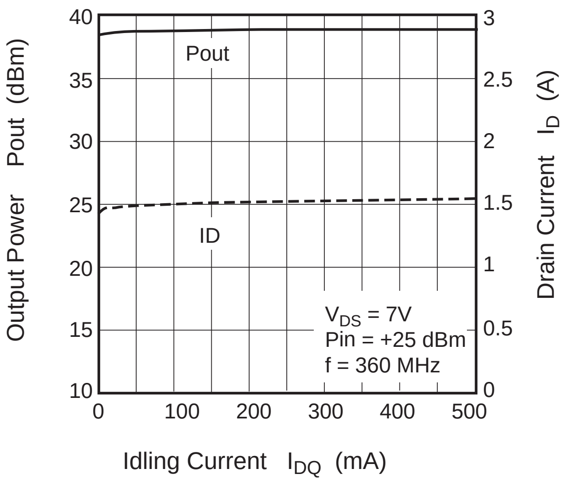
Output Power, Drain Current
vs. Drain to Source Voltage



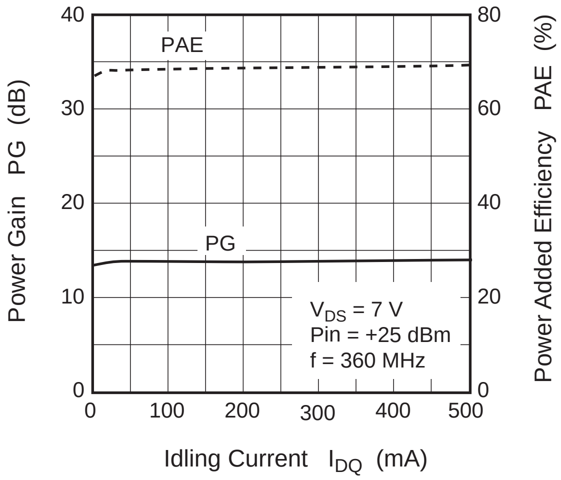
Power Gain, Power Added Efficiency
vs. Drain to Source Voltage



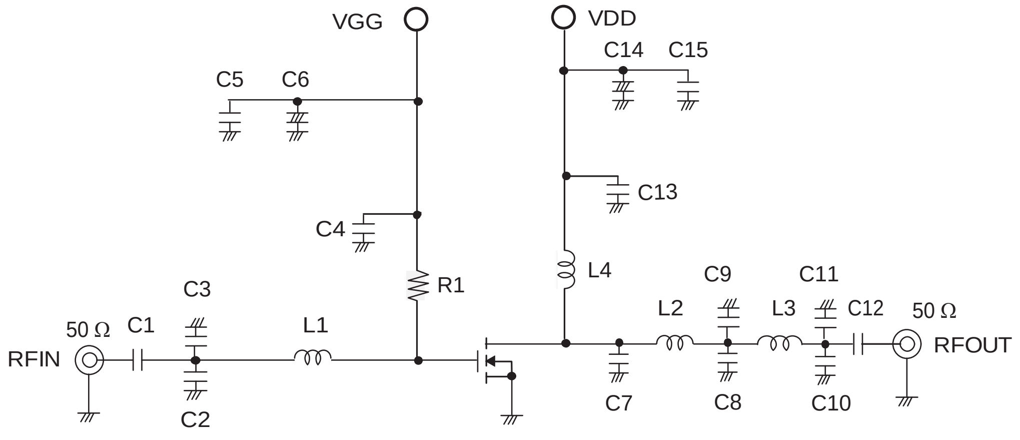
Output Power, Drain Current
vs. Idling Current



Power Gain, Power Added Efficiency
vs. Idling Current

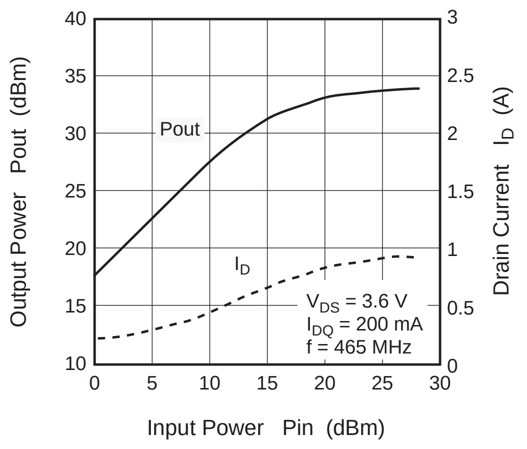


Evaluation Circuit 1 (@V_{DD} = 3.6 & 7.0V Tuning, f = 465 MHz)

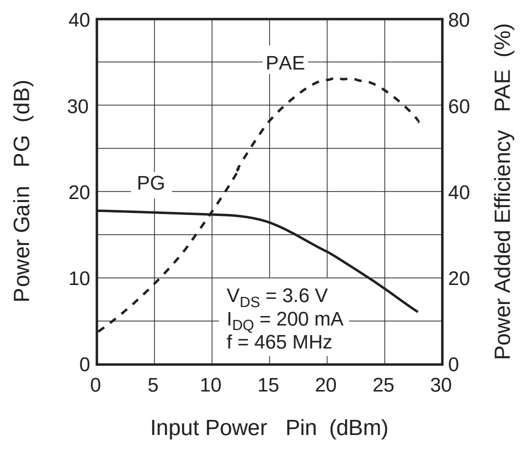


C1	22 pF Chip Capacitor	C9	12 pF Chip Capacitor
C2, C3, C7, C10	10 pF Chip Capacitor	C11	2 pF Chip Capacitor
C4, C13	100 pF Chip Capacitor	L1	2.7 nH Chip Inductor
C5, C12, C15	1000 pF Chip Capacitor	L2, L3	1.0 nH Chip Inductor
C6, C14	1 μF / +16V Chip Tantalum Capacitor	L4	8 Turns D: 0.5 mm,f2.4mm Enamel Wire
C8	7 pF Chip Capacitor	R1	6.8k Ω Chip Resistor

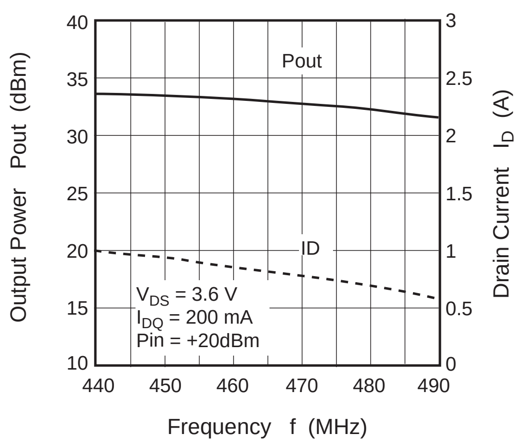
Output Power, Drain Current
vs. Input Power



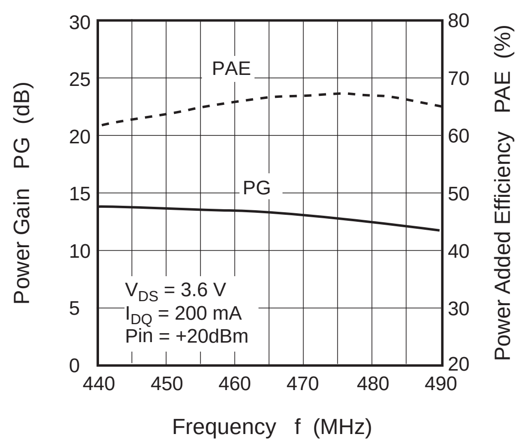
Power Gain, Power Added Efficiency
vs. Input Power



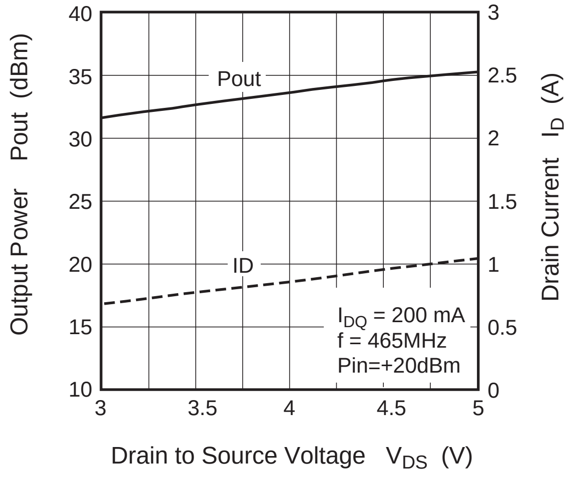
Output Power, Drain Current
vs. Frequency



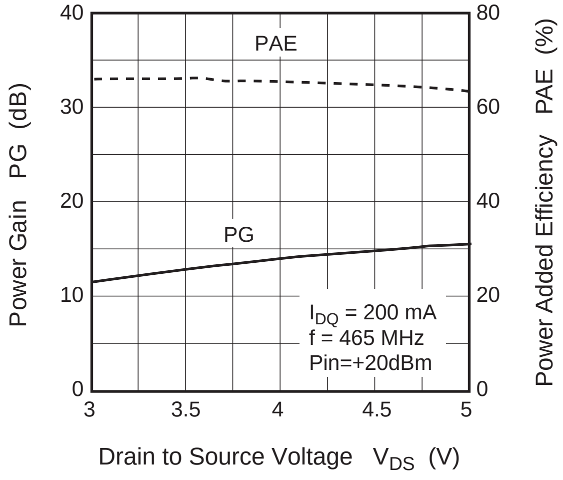
Power Gain, Power Added Efficiency
vs. Frequency



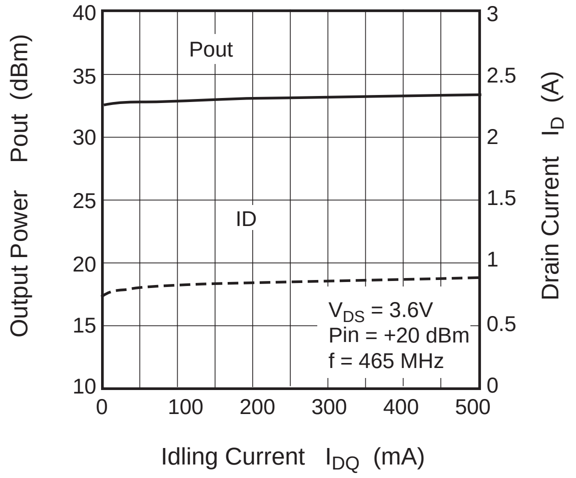
Output Power, Drain Current
vs. Drain to Source Voltage



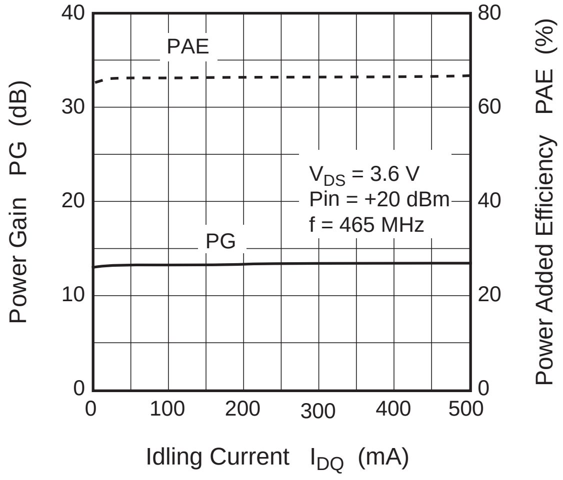
Power Gain, Power Added Efficiency
vs. Drain to Source Voltage



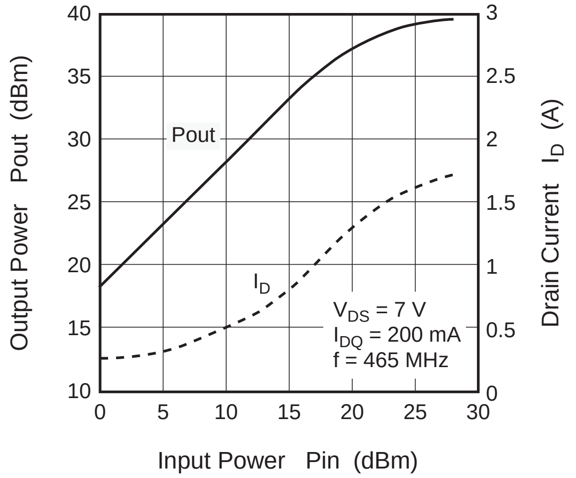
Output Power, Drain Current
vs. Idling Current



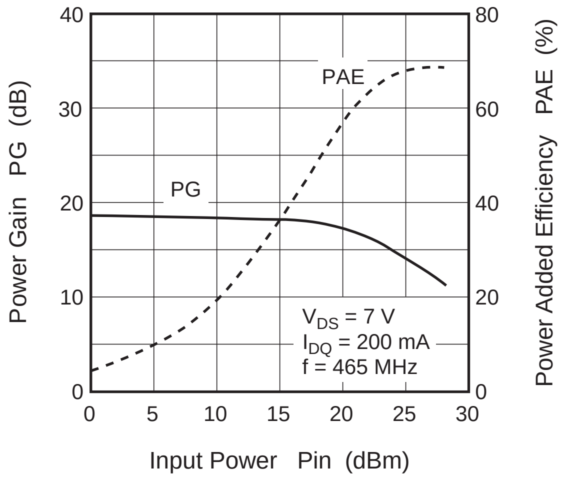
Power Gain, Power Added Efficiency
vs. Idling Current



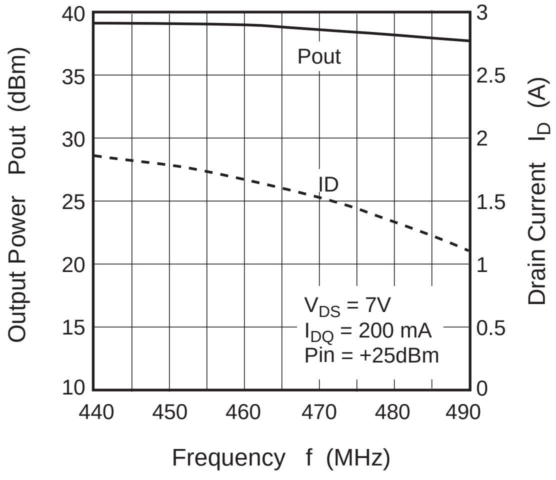
Output Power, Drain Current
vs. Input Power



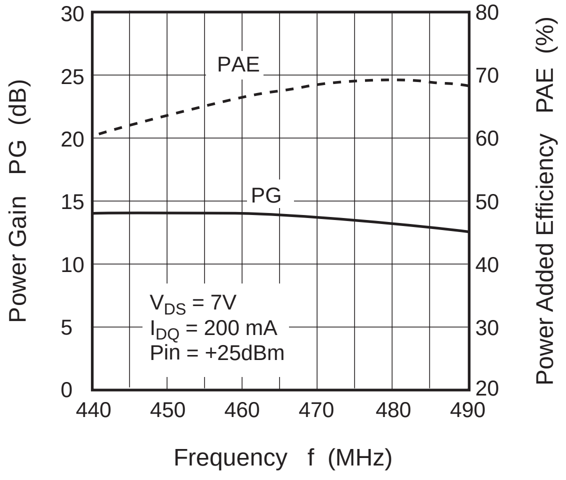
Power Gain, Power Added Efficiency
vs. Input Power



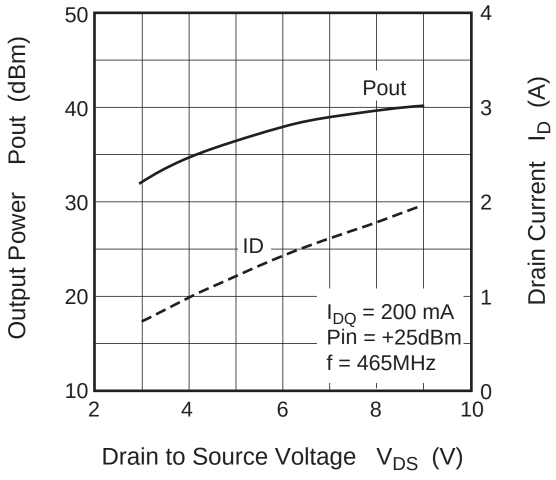
Output Power, Drain Current
vs. Frequency



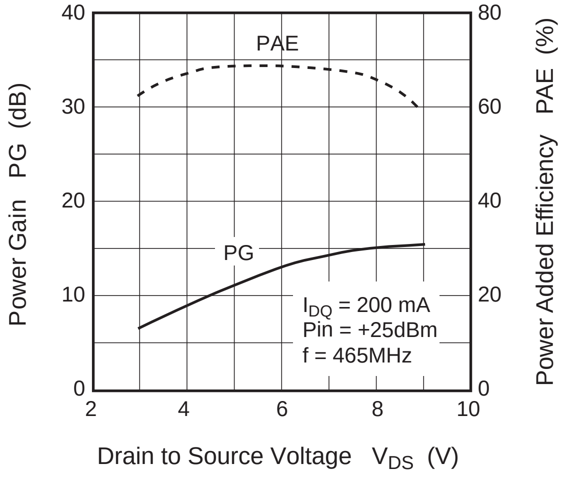
Power Gain, Power Added Efficiency
vs. Frequency



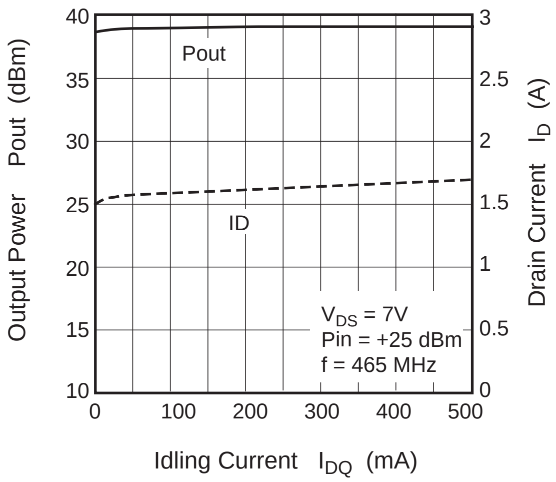
Output Power, Drain Current
vs. Drain to Source Voltage



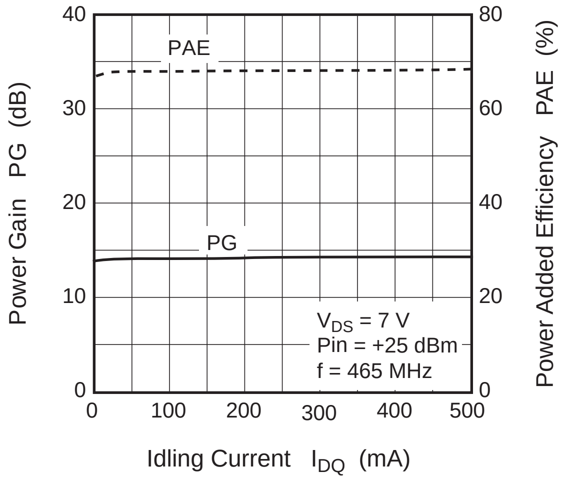
Power Gain, Power Added Efficiency
vs. Drain to Source Voltage



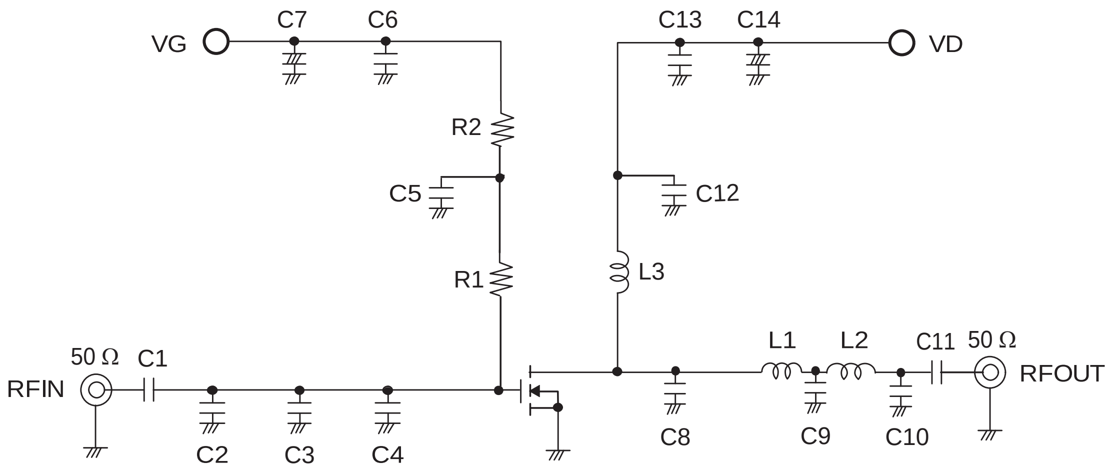
Output Power, Drain Current
vs. Idling Current



Power Gain, Power Added Efficiency
vs. Idling Current

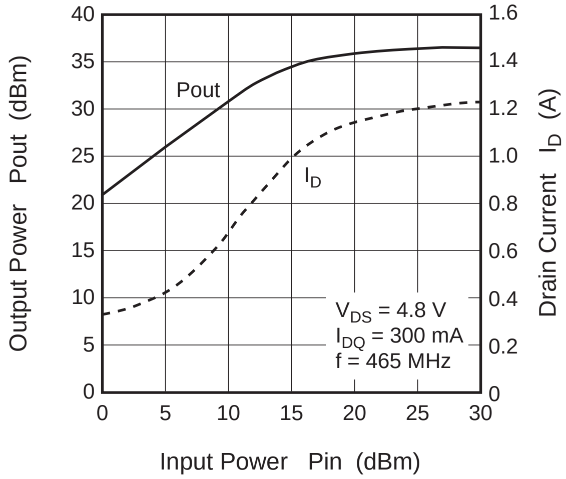


Evaluation Circuit (f = 465 MHz@VDS=4.8V)

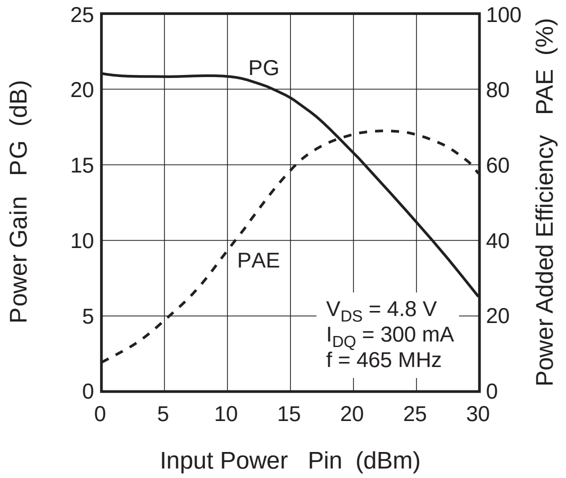


C1, C5, C11, C12	100 pF Chip Capacitor
C2, C8	22 pF Chip Capacitor
C3	15 pF Chip Capacitor
C4, C9, C10	10 pF Chip Capacitor
C6, C13	2200 pF Chip Capacitor
C7, C14	1 μF / 35 V Chip Tantalum Capacitor
L1	1 nH Chip Inductor
L2	1.8 nH Chip Inductor
L3	8 Turns D: 0.5 mm, ϕ 2.4 mm Enamel Wire
R1	670 Ω Chip Resistor
R2	6.8 kΩ Chip Resistor

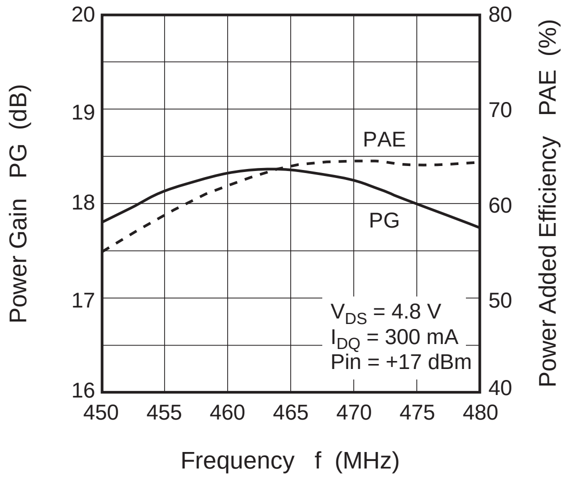
Output Power, Drain Current
vs. Input Power



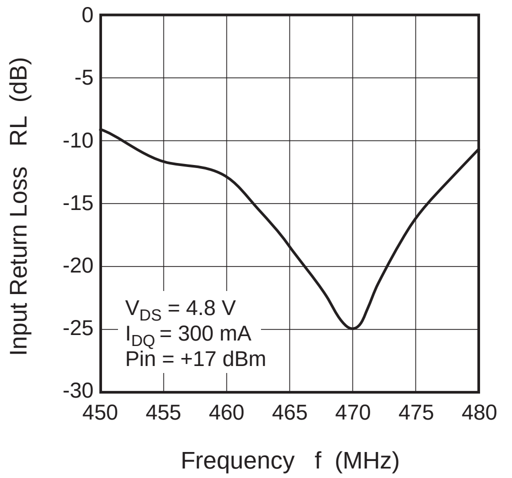
Power Gain, Power Added Efficiency
vs. Input Power



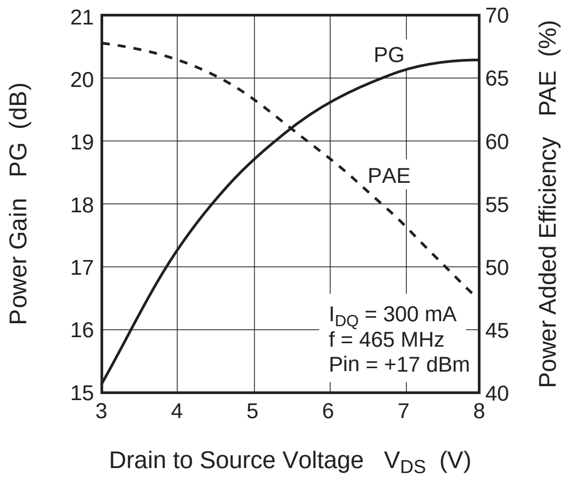
Power Gain, Power Added Efficiency
vs. Frequency



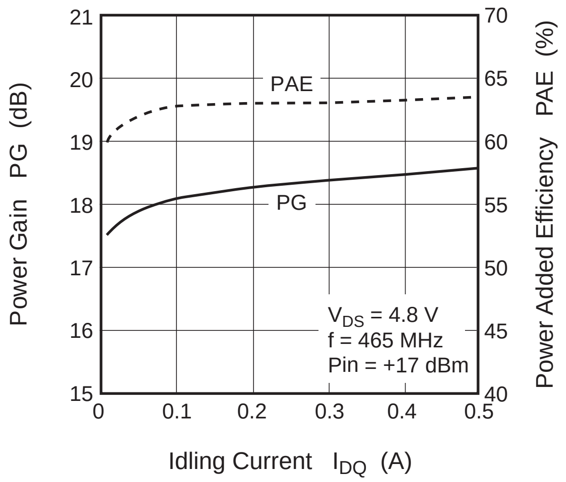
Input Return Loss vs. Frequency



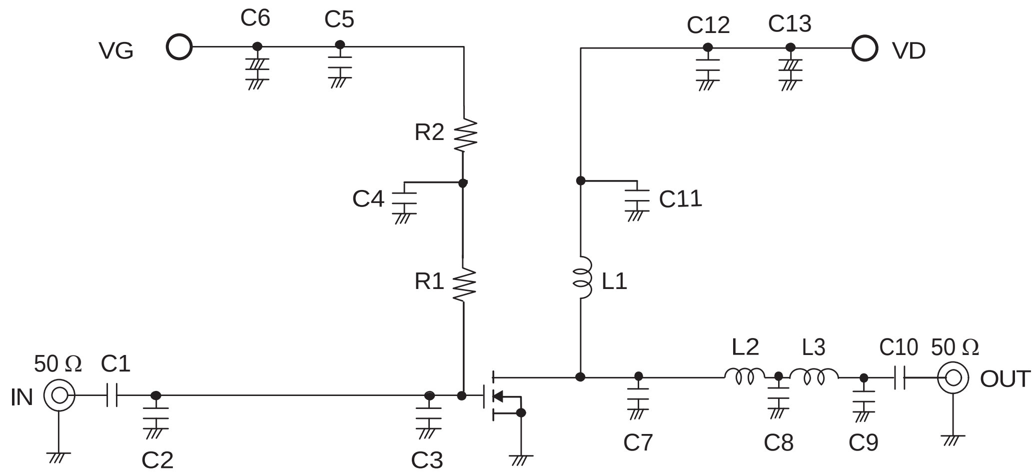
Power Gain, Power Added Efficiency,
vs. Drain to Source Voltage



Power Gain, Power Added Efficiency
vs. Idling Current

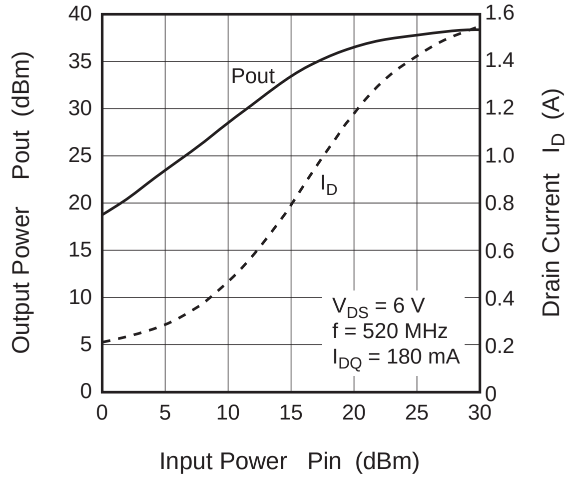


Evaluation Circuit (f = 520 MHz)

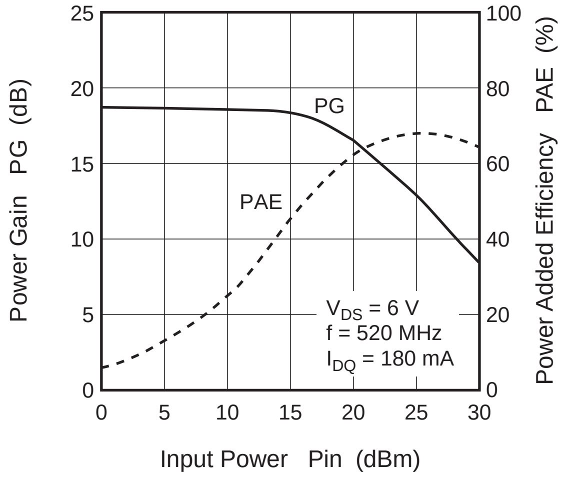


C1, C4, C10, C11	100 pF Chip Capacitor
C2	22 pF Chip Capacitor
C3	5 pF Chip Capacitor
C5, C12	1000 pF Chip Capacitor
C6, C13	1 μF Chip Tantalum Capacitor
C7	18 pF Chip Capacitor
C8	10 pF Chip Capacitor
C9	7 pF Chip Capacitor
L1	8 Turns D: 0.5 mm, ϕ 2.4 mm Enamel Wire
L2	1 nH Chip Inductor
L3	1.8 nH Chip Inductor
R1	670 Ω Chip Resistor
R2	6.8 kΩ Chip Resistor

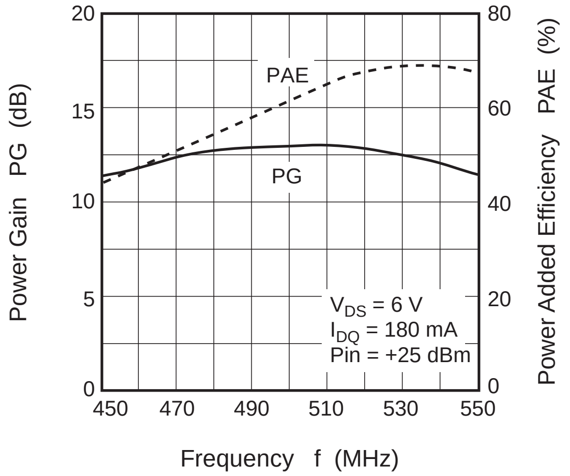
Output Power, Drain Current
vs. Input Power



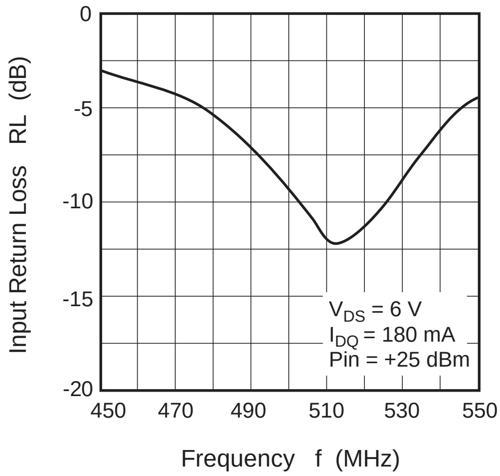
Power Gain, Power Added Efficiency
vs. Input Power



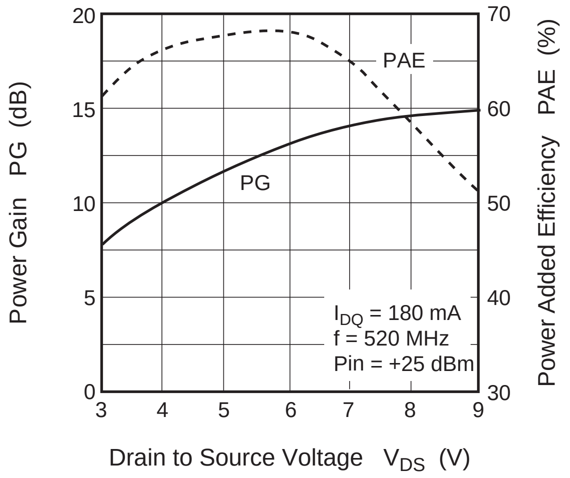
Power Gain, Power Added Efficiency
vs. Frequency



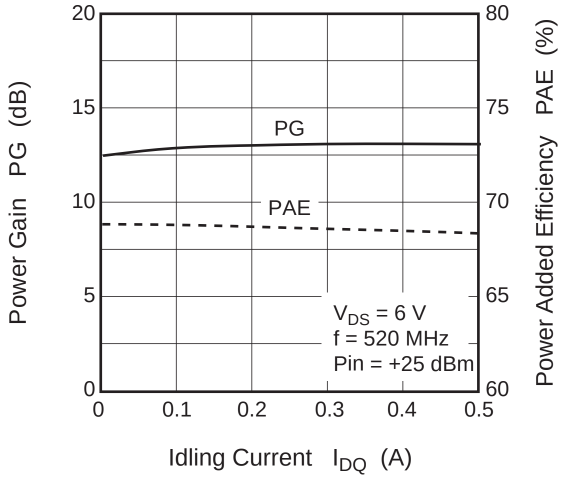
Input Return Loss vs. Frequency



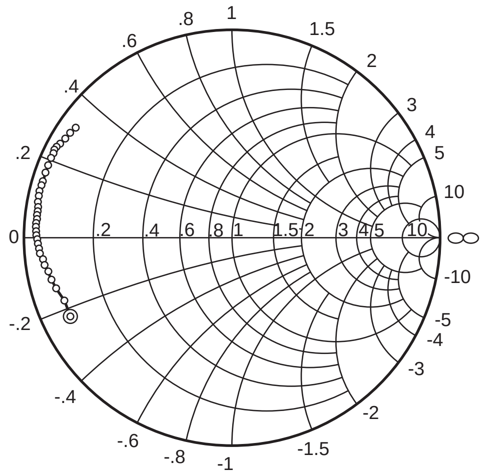
Power Gain, Power Added Efficiency,
vs. Drain to Source Voltage



Power Gain, Power Added Efficiency
vs. Idling Current

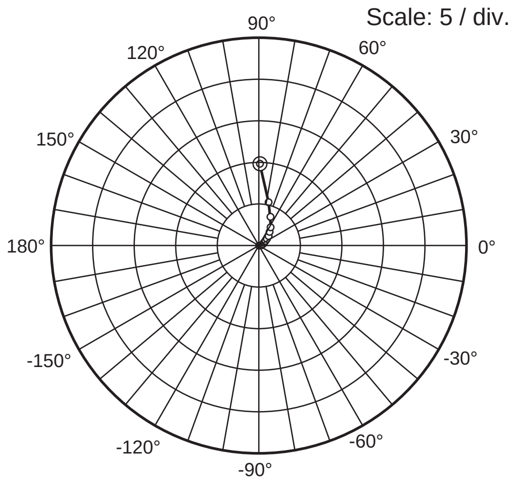


S_{11} Parameter vs. Frequency



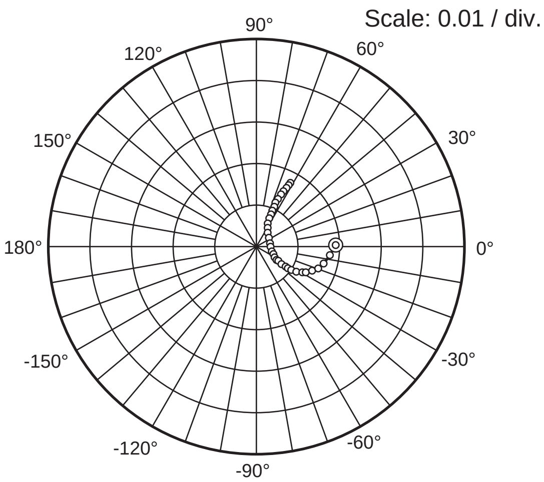
Test condition:
V_{DS} = 6 V, I_{DQ} = 180 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

S_{21} Parameter vs. Frequency



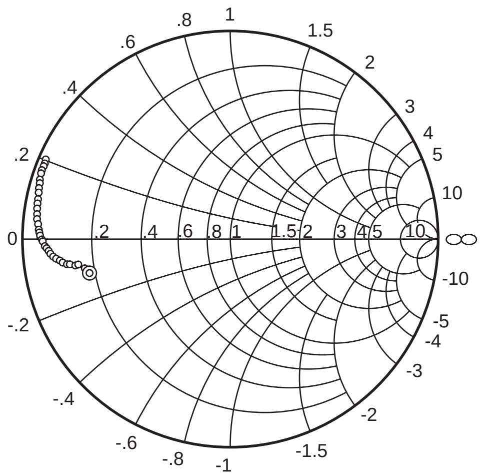
Test condition:
V_{DS} = 6 V, I_{DQ} = 180 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

S_{12} Parameter vs. Frequency



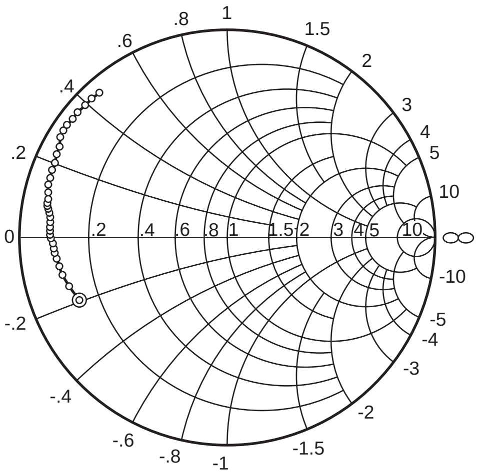
Test condition:
V_{DS} = 6 V, I_{DQ} = 180 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

S_{22} Parameter vs. Frequency



Test condition:
V_{DS} = 6 V, I_{DQ} = 180 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

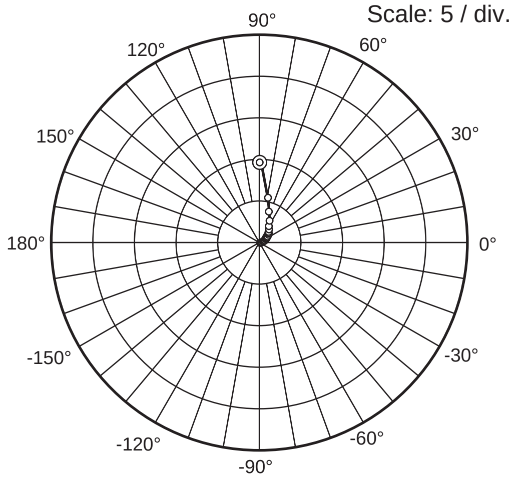
S_{11} Parameter vs. Frequency



Test condition:

V_{DS} = 4.8 V, I_{DQ} = 300 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

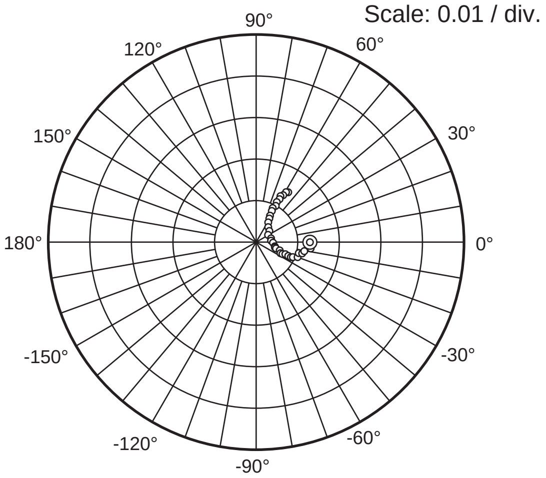
S_{21} Parameter vs. Frequency



Test condition:

V_{DS} = 4.8 V, I_{DQ} = 300 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

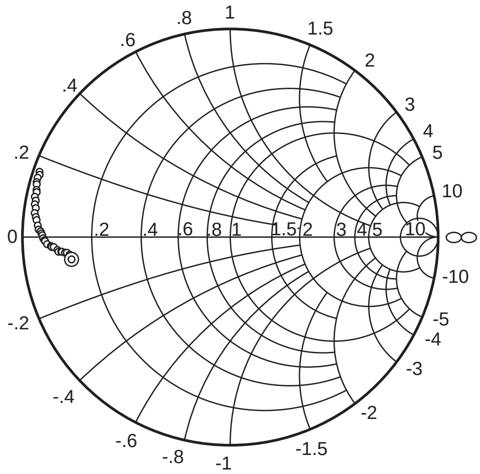
S_{12} Parameter vs. Frequency



Test condition:

V_{DS} = 4.8 V, I_{DQ} = 300 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

S_{22} Parameter vs. Frequency



Test condition:

V_{DS} = 4.8 V, I_{DQ} = 300 mA, Z_O = 50 Ω
100 to 1000 MHz (50 MHz step)
1000 to 2500 MHz (100 MHz step)

S Parameter

(V_{DS} = 6 V, I_{DQ} = 180 mA, Zo = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.868	-154.0	9.85	88.8	0.019	1.2	0.706	-166.8
150	0.861	-159.4	5.42	77.2	0.018	-6.3	0.725	-168.9
200	0.882	-163.9	3.64	68.2	0.016	-14.1	0.755	-170.6
250	0.892	-166.8	2.64	58.5	0.016	-19.2	0.768	-170.6
300	0.899	-169.5	2.06	51.8	0.014	-22.1	0.792	-171.2
350	0.910	-171.6	1.61	45.1	0.013	-27.2	0.805	-171.5
400	0.918	-173.4	1.28	40.3	0.013	-29.3	0.827	-172.2
450	0.926	-175.2	1.04	36.0	0.011	-34.1	0.840	-173.1
500	0.932	-176.8	0.84	31.8	0.010	-33.1	0.855	-173.8
550	0.936	-178.2	0.73	28.8	0.009	-34.5	0.869	-174.6
600	0.940	-179.5	0.62	26.4	0.008	-34.6	0.880	-175.6
650	0.941	179.2	0.54	23.1	0.007	-36.5	0.892	-176.5
700	0.944	178.1	0.45	20.2	0.006	-32.7	0.901	-177.3
750	0.945	176.9	0.41	18.3	0.006	-32.0	0.906	-178.0
800	0.944	175.9	0.37	16.4	0.005	-25.3	0.915	-179.4
850	0.944	174.6	0.31	13.9	0.004	-22.3	0.919	180.0
900	0.943	173.4	0.30	12.1	0.004	-15.2	0.929	178.9
950	0.943	172.3	0.26	10.6	0.003	0.3	0.930	178.1
1000	0.946	171.1	0.23	8.6	0.003	9.1	0.936	177.2
1050	0.949	170.2	0.22	7.3	0.003	20.6	0.940	176.5
1100	0.951	169.4	0.21	6.5	0.004	36.9	0.943	175.5
1150	0.952	168.7	0.18	5.3	0.004	40.3	0.944	174.7
1200	0.952	167.8	0.18	4.3	0.004	52.0	0.950	174.1
1250	0.952	167.0	0.16	3.7	0.005	53.2	0.951	173.3
1300	0.952	166.2	0.14	2.2	0.005	56.8	0.949	172.6
1350	0.952	165.4	0.14	1.3	0.006	60.9	0.956	171.7
1400	0.952	164.6	0.13	0.8	0.006	64.0	0.958	171.0
1450	0.952	164.0	0.12	0.1	0.007	62.2	0.957	170.3
1500	0.952	163.3	0.11	-0.8	0.008	65.4	0.956	169.5
1550	0.952	162.1	0.11	-1.8	0.008	65.9	0.959	168.5
1600	0.952	160.8	0.10	-2.7	0.009	65.6	0.960	168.2
1650	0.952	159.7	0.10	-3.6	0.009	65.9	0.960	167.4
1700	0.952	158.5	0.09	-4.5	0.010	66.6	0.962	166.4
1750	0.952	157.3	0.08	-4.7	0.010	66.2	0.967	165.8
1800	0.952	156.4	0.08	-5.0	0.011	66.5	0.968	165.3
1850	0.952	155.7	0.08	-4.7	0.011	66.5	0.965	164.5
1900	0.953	154.7	0.07	-4.9	0.012	67.0	0.967	163.7
1950	0.958	153.9	0.07	-5.2	0.012	67.0	0.976	163.2
2000	0.965	153.6	0.07	-4.6	0.013	65.5	0.972	162.9
2050	0.963	153.3	0.07	-4.9	0.013	65.4	0.972	161.9
2100	0.956	152.9	0.06	-4.2	0.014	65.3	0.976	161.0
2150	0.950	152.2	0.06	-3.5	0.014	65.2	0.981	160.7
2200	0.944	151.6	0.06	-3.8	0.015	63.9	0.977	160.1
2250	0.936	150.7	0.06	-3.5	0.015	63.9	0.977	159.5
2300	0.932	149.3	0.05	-3.4	0.016	63.0	0.978	158.9
2350	0.932	148.1	0.05	-3.6	0.016	62.8	0.981	158.4
2400	0.929	147.3	0.05	-3.0	0.017	63.0	0.977	158.0
2450	0.923	146.3	0.05	-3.6	0.017	61.3	0.977	157.2
2500	0.917	144.9	0.05	-3.0	0.017	61.8	0.980	156.8

S Parameter

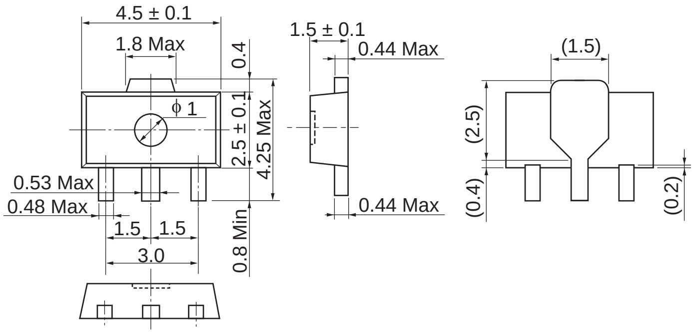
(V_{DS} = 4.8 V, I_{DQ} = 300 mA, Zo = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.772	-157.0	9.63	88.9	0.013	-1.0	0.776	-172.1
150	0.794	-162.8	5.54	79.0	0.013	-6.3	0.784	-173.8
200	0.812	-167.3	3.91	71.6	0.012	-11.1	0.799	-174.8
250	0.818	-170.4	2.98	64.7	0.011	-13.5	0.805	-174.8
300	0.824	-173.1	2.36	59.1	0.011	-15.2	0.818	-175.0
350	0.831	-175.0	1.92	53.6	0.011	-20.4	0.824	-175.1
400	0.836	-176.6	1.60	48.7	0.010	-21.4	0.837	-175.4
450	0.841	-178.3	1.36	44.8	0.009	-23.3	0.843	-175.8
500	0.848	-179.9	1.15	40.5	0.008	-22.9	0.859	-176.8
550	0.851	179.0	1.00	37.1	0.008	-22.2	0.868	-177.1
600	0.851	177.7	0.87	33.9	0.007	-24.8	0.874	-177.4
650	0.852	176.3	0.77	30.7	0.006	-24.2	0.887	-177.8
700	0.854	174.7	0.69	27.9	0.006	-20.5	0.896	-178.8
750	0.858	173.3	0.60	24.8	0.005	-18.2	0.901	-179.1
800	0.865	171.9	0.54	22.3	0.005	-15.1	0.905	-179.8
850	0.873	170.8	0.49	20.2	0.005	-12.2	0.911	179.5
900	0.878	169.8	0.45	17.9	0.004	-1.7	0.918	178.9
950	0.880	168.8	0.41	16.1	0.004	4.3	0.922	178.3
1000	0.882	167.7	0.37	14.2	0.004	11.2	0.932	177.8
1050	0.886	166.5	0.35	12.4	0.004	21.6	0.931	177.1
1100	0.889	165.5	0.32	10.7	0.004	29.8	0.935	176.5
1150	0.893	164.4	0.29	8.9	0.004	33.2	0.939	175.8
1200	0.898	163.3	0.27	7.5	0.004	40.9	0.944	175.1
1250	0.902	162.4	0.26	6.2	0.005	46.7	0.943	174.6
1300	0.901	161.3	0.23	4.7	0.005	50.8	0.948	174.1
1350	0.902	160.0	0.22	3.3	0.005	54.5	0.948	173.4
1400	0.904	158.7	0.21	1.8	0.006	57.8	0.954	173.1
1450	0.907	157.7	0.19	0.4	0.006	55.3	0.954	172.5
1500	0.904	156.5	0.18	-0.8	0.007	60.5	0.953	171.6
1550	0.905	155.1	0.17	-2.4	0.007	62.1	0.958	171.0
1600	0.912	153.8	0.16	-3.1	0.007	61.1	0.959	170.7
1650	0.915	152.8	0.15	-4.2	0.008	64.3	0.956	170.4
1700	0.919	151.5	0.14	-5.8	0.008	63.2	0.958	169.3
1750	0.926	149.9	0.14	-6.8	0.009	62.7	0.964	168.9
1800	0.938	148.8	0.13	-7.8	0.009	63.0	0.965	168.4
1850	0.942	147.9	0.13	-8.6	0.010	62.6	0.963	167.8
1900	0.942	146.7	0.12	-9.3	0.010	61.9	0.965	167.0
1950	0.945	145.5	0.11	-10.2	0.010	63.8	0.968	166.6
2000	0.946	144.7	0.11	-10.6	0.011	62.4	0.965	166.3
2050	0.942	143.7	0.11	-11.2	0.011	62.2	0.969	165.5
2100	0.939	142.3	0.10	-11.8	0.012	61.2	0.973	164.9
2150	0.940	140.9	0.10	-12.5	0.012	62.0	0.974	164.6
2200	0.942	139.8	0.09	-13.3	0.012	61.3	0.974	164.2
2250	0.939	138.3	0.09	-14.3	0.013	59.2	0.974	163.4
2300	0.937	136.8	0.08	-15.3	0.013	59.6	0.976	163.0
2350	0.937	135.4	0.08	-16.3	0.014	59.8	0.977	162.9
2400	0.935	134.1	0.08	-17.5	0.014	58.9	0.972	162.0
2450	0.932	132.8	0.07	-18.1	0.014	57.9	0.975	161.5
2500	0.931	131.3	0.07	-18.7	0.014	57.7	0.977	161.2

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
UPAK	SC-62	PLZZ0004CA-A	UPAK / UPAKV	0.050g

Unit: mm



Ordering Information

Orderable Part Number	Quantity	Shipping Container
RQA0009SXTL-E	1000 pcs.	ϕ178 mm reel, 12 mm emboss taping

SALES OFFICES Renesas Electronics Corporation http://www.renesas.com

Refer to "http://www.renesas.com/" for the latest and detailed information.

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Colophon 1.1