

Qorvo® Broadband Access, CATV & FTTH Product Selection Guide

Upgrade Your Network



QORVO
all around you

Technology Leadership in Broadband Connections Through Best-in-Class Innovative RF Solutions

Qorvo offers leading technology and comprehensive product solutions for demanding hybrid fiber coaxial (HFC) and broadband applications. Qorvo's broadband portfolio includes high power amplifiers in industry-standard SOT115J package and in multi-chip modules (MCMs), low power MMICs and control products. These products are designed for HFC headend, CMTS, optical nodes and distributed architecture supporting DOCSIS® standards in various configurations like fiber deep, node split, remote PHY, full duplex, and Extended Spectrum DOCSIS. In addition, Qorvo offers products for FTTx and xPON system solutions with transimpedance amplifiers and complete optical modules.

High Output Hybrid & MCMs

1.218 GHz DOCSIS 3.1 Power Doubler Amplifiers

Table (A)

Part Number	Package	Freq Range (MHz)	Gain (dB)	Power Consumption		Max Out (dBmV)*	Max Comp Out (dBmV)*	CTB (dBc)	CSO (dBc)	XMOD (dBc)	CIN (dB)	Release Status	Technology
				Current (mA)	Voltage (V)								
RFPD3540	Hybrid	45-1218	28	420	24	59	68.8	-80	-80	-76	55	Production	GaAs/GaN
QPA3333	MCM	45-1218	28	420	24	59	68.8	-80	-74	-75	60	Production	GaAs/GaN
QPB8857	5x7 QFN	45-1218	28	440	24	57	66.8	-83	-81	-	60	Production	GaAs
QPA3357	Hybrid	45-1218	28	440	24	57	66.8	-83	-81	-	60	Target 11/2019	GaAs
RFCM3316	MCM	45-1218	23	430	24	61	60.8	-73	-76	-65	60	Production	GaAs/GaN
RFPD3210	Hybrid	45-1218	23	470	24	63	73.8	-73	-76	-68	57	Production	GaAs/GaN
QPA3230	Hybrid	45-1218	23	370-470	24	63	73.8	-73	-76	-68	57	Production	GaAs/GaN
RFCM3327	MCM	45-1218	23	370-470	24	63	73.8	-80	-80	-76	58	Production	GaAs/GaN
RFCM3326	MCM	45-1218	25	430	24	61	60.8	-73	-76	-65	60	Production	GaAs/GaN
RFPD3220	Hybrid	45-1218	25	470	24	63	73.8	-73	-76	-68	57	Production	GaAs/GaN
QPA3240	Hybrid	45-1218	25	370-470	24	63	73.8	-73	-76	-68	57	Production	GaAs/GaN
RFCM3328	MCM	45-1218	25	370-470	24	63	73.8	-80	-80	-76	58	Production	GaAs/GaN
RFPD3580	Hybrid	45-1218	23	430-530	34	67	76.8	-73	-74	-68	55	Production	GaAs/GaN
QPA3250	Hybrid	45-1218	23	430-530	34	67	76.8	-73	-74	-68	55	Target 10/2019	GaAs/GaN

*Virtual level, 190 QAM256 channels, 22 dB tilt actual level = virtual -6 dB

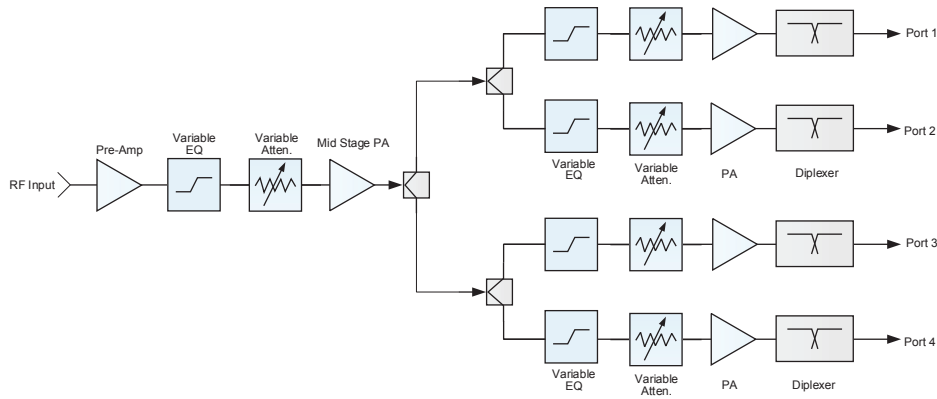
1.218 GHz DOCSIS 3.1 Push Pull Amplifiers (Interstage)

Table (B)

Part Number	Package	Freq Range (MHz)	Gain (dB)	Power Consumption		Pout (dBmV)*	CTB (dBc)	CSO (dBc)	XMOD (dBc)	CIN (dB)	Release Status	Technology
				Current (mA)	Voltage (V)							
QPA8801	5x7 QFN	47-1218	11	395	12	47	-70	-72	-	68.5	Target 11/2019	GaAs
RFPP2590	Hybrid	45-1218	24	230	24	43	-64	-70	-60	66	Production	GaAs
QPB8858	5x7 QFN	47-1218	34	290	24	47	-75	-70	-	65	Production	GaAs
RFAM3790	MCM	45-1218	28 (Var)	410	12	45	-67	-70	-60	64	Production	GaAs
RFCM4363	MCM	45-1218	28	260	24	45	-72	-80	-65	70	Production	GaAs/GaN
RFPP3870	Hybrid	45-1218	28	260	24	45	-72	-78	-63	69	Production	GaAs/GaN
RFPP3180	Hybrid	45-1218	34	240	24	45	-66	-72	-62	64	Production	GaAs
RFAM3620	MCM	45-1218	36 (Var)	510	12	46	-73	-75	-70	64	Production	GaAs
QPA3358	Hybrid	47-1218	34	290	24	47	-75	-70	-	65	Target 12/2019	GaAs
QPA4425	5x7 QFN	45-1218	25	290	24	47	-75	-70	-	65	Target 05/2020	GaAs
QPA4428	5x7 QFN	45-1218	28	290	24	47	-75	-70	-	65	Target 06/2020	GaAs

*79 analog channels plus 111 QAM256 channels (ITU-T/J.83 annex B), -6 dB offset, flat

4 Port Optical Node, RF Launch AMP: CATV



1 GHz Power Doubler Amplifiers

Table (C)

Part Number	Package	Freq Range (MHz)	Power Consumption			Pout (dBmV)	CTB (dBc)	CSO (dBc)	XMOD (dBc)	CIN (dB)	Release Status	Technology
			Gain (dB)	Current (mA)	Voltage (V)							
D10040180GT	Hybrid	40-1000	18	375	24	44	-64	-65	-60	-	Production	GaAs
D10040180GTH	Hybrid	40-1000	18	420	24	52	-65	-67	-62	-	Production	GaAs
D10040200GT	Hybrid	40-1000	20	375	24	44	-64	-65	-60	-	Production	GaAs
D10040200GTH	Hybrid	40-1000	20	420	24	52	-65	-67	-62	-	Production	GaAs
D10040220GT	Hybrid	40-1000	22	375	24	44	-64	-65	-60	-	Production	GaAs
D10040220GTH	Hybrid	40-1000	22	420	24	52	-65	-67	-62	-	Production	GaAs
QPA3223	Hybrid	40-1000	23	410	24	50	-70	-71	-65	62	Production	GaAs/GaN
QPA3238	Hybrid	40-1000	23	370-470	24	61	-73	-76	-65	60	Production	GaAs/GaN
QPA3340	Hybrid	40-1000	23	470	24	61	-73	-76	-65	60	Production	GaAs/GaN
D10040240GT	Hybrid	40-1000	24	375	24	44	-64	-65	-60	-	Production	GaAs
D10040240GTH	Hybrid	40-1000	24	420	24	52	-65	-67	-62	-	Production	GaAs
TAT8888	Hybrid	50-1000	24	445	24	61	-75	-69	-65	58	Production	GaAs/GaN
TAT9988	5x7 QFN	40-1000	24	445	24	60	-75	-69	-65	59	Production	GaAs/GaN
D10040250GT	Hybrid	40-1000	25	375	24	44	-64	-65	-60	-	Production	GaAs
D10040250GTH	Hybrid	40-1000	25	440	24	52	-65	-67	-62	-	Production	GaAs
QPA3248	Hybrid	40-1000	25	370-470	24	61	-73	-76	-65	60	Production	GaAs/GaN
QPA3350	Hybrid	40-1000	25	470	24	61	-73	-76	-65	60	Production	GaAs/GaN
TAT8857A1H	SOIC16W	45-1000	25	350	24	53	-73	-74	-68	60	Production	GaAs
D10040270GT	Hybrid	40-1000	27	375	24	44	-64	-65	-60	-	Production	GaAs
D10040270GTH	Hybrid	40-1000	27	420	24	52	-65	-67	-62	-	Production	GaAs
D10040270GTL	Hybrid	40-1000	27	325	24	40	-61	-63	-58	-	Production	GaAs
RFPD3890	Hybrid	40-1000	27	370	24	56	-73	-70	-67	62	Production	GaAs
QPB8957	5x7 QFN	50-1003	28	350	24	56	-78	-79	-	64	Production	GaAs
D10040300GTH	Hybrid	40-1000	30	420	24	52	-65	-65	-62	-	Production	GaAs

1 GHz Push Pull Amplifiers (Interstage)

Table (D)

Part Number	Package	Freq Range (MHz)	Power Consumption			Pout (dBmV)	CTB (dBc)	CSO (dBc)	XMOD (dBc)	Release Status	Technology
			Gain (dB)	Current (mA)	Voltage (V)						
S10040140P1	Hybrid	40-1003	14	250	24	46	-64	-64	-55	Production	GaAs
S10040180P1	Hybrid	40-1003	18	250	24	46	-68	-68	-59	Production	GaAs
S10040200P	Hybrid	40-1003	20	255	24	46	-60	-63	-57	Production	GaAs
S10040220GT	Hybrid	40-1003	22	230	24	42	-63	-59	-58	Production	GaAs
S10040220P	Hybrid	40-1003	22	260	24	46	-66	-66	-59	Production	GaAs
S10040230GT	Hybrid	40-1003	23	240	24	42	-63	-59	-58	Production	GaAs
S10040240P	Hybrid	40-1003	24	250	24	46	-66	-66	-59	Production	GaAs
S10040280GT	Hybrid	40-1003	28	250	24	42	-65	-63	-58	Production	GaAs
TAT8858A1H	SOIC16W	40-1003	32	270	24	32	-69	-68	-61	Production	GaAs
QPA3320	Hybrid	40-1003	34	280	24	44	-66	-65	-60	Production	GaAs
QPB8958	5x7 QFN	50-1003	34	260	24	47	-75	-70	-	Production	GaAs

Part Number	Package	Freq Range (MHz)	Power Consumption						Release Status	Technology
			Gain (dB)	Current (mA)	Voltage (V)	CTB (dBc)	CSO (dBc)	XMOD (dBc)		
R0605250L	Hybrid	5-65	25	133	24	-69	-70	-59	Production	Si
R0605300L	Hybrid	5-65	30	133	24	-64	-68	-55	Production	Si
R1005250L	Hybrid	5-100	25	133	24	-69	-70	-59	Production	Si
RFRP2920	Hybrid	5-100	28	158	24	-72	-70	-64	Production	Si
R1005300L	Hybrid	5-100	30	130	24	-64	-68	-55	Production	Si
RFRP2241	Hybrid	5-100	30	130	24	-66	-70	-57	Production	Si
R2005280L	Hybrid	5-210	28	135	24	-69	-70	-65	Production	Si
R2005300L	Hybrid	5-210	30	138	24	-72	-72	-65	Production	Si
R2005350L	Hybrid	5-210	35	158	24	-72	-72	-64	Production	Si
RFCM5304	MCM	5-220	39 (Var)	205	12	-70	-70	-60	Production	Si
R3005250L	Hybrid	5-300	25	138	24	-71	-75	-63	Production	Si
R3005300L	Hybrid	5-300	30	148	24	-70	-72	-63	Production	Si
RFRP3120	Hybrid	5-300	35	158	24	-70	-75	-63	Production	Si
QPA5368	MCM	5-300	35.3	195	12	-72	-75	-63	Production	Si

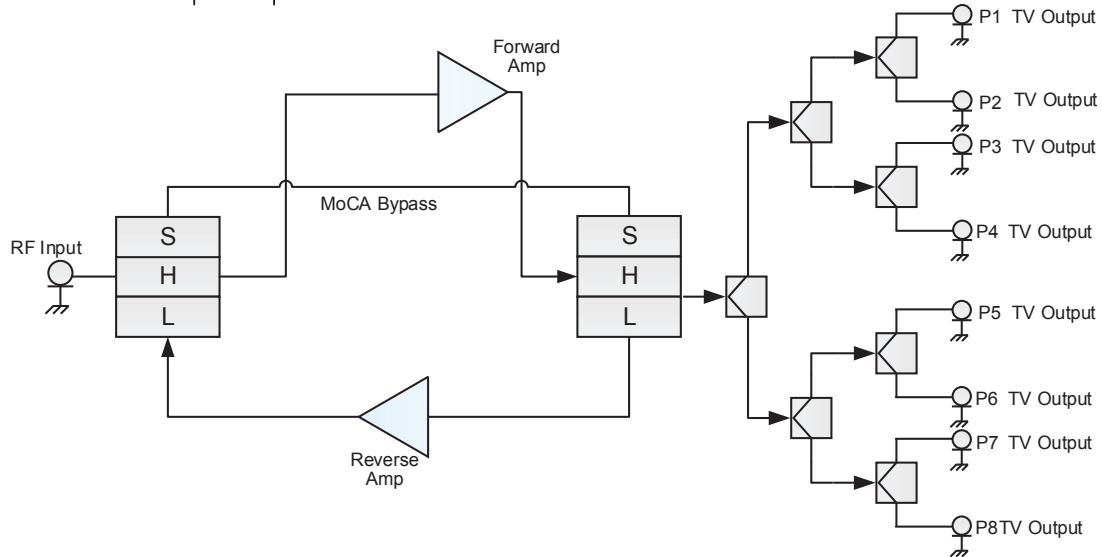
Medium and Low Power MMICs

Differential MMIC

Table (F)

Part Number	Package	Freq Range (MHz)	Product Description	Gain (dB)	P1dB (dBm)	Output IP3 (dBm)	Noise Figure (dB)	Vcc (V)	Icc (mA)	Release Status
CGR0118Z	SOIC 8	5-65	Dual Reverse Amp	25.4	74	40	2.7	5	262	LTB 12/10/2019
QPB2318	SOIC 8	5-210	Reverse Amp	15.5	26.2	48	3.8	5, 8	235	Production
CGR0218Z	SOIC 8	5-210	Dual Reverse Amp	17.3	23	42	4	5	217	Production
QPB2328	SOIC 8	5-210	Reverse Amp	17.8	27	46	3.5	5, 8	235	Production
QPB8896	SOIC 8	5-700	Reverse Amp (FDX)	25	22.6	38	1.8	5	275	Production
RFCA1008	SOIC 8	5-1000	High Linearity RF Amplifier	17	23	40	4	5	217	Production
CGA6618Z	ESOP-8	50-1000	High Linearity RF Amplifier	13	21	39	5.4	5	160	NRND
AG606	SOIC 8	50-1000	Dual RF Amplifier	14	20.3	37	5	5	165	Production
TAT7466	SOIC 8	50-1000	Dual RF Amplifier	14	-	40	4	5	190	Production
CGA7718Z	SOIC 8	50-1000	Dual RF Amplifier	17.4	23	41	4	5	215	Production
TGA2807-SM	5x5 QFN	40-1000	Low Noise Linear Amplifier	18.5	-	40	2.3	6	318	Production
QPB8957	5x7 QFN	50-1000	Power Doubler	28	28	51	4.5	24	350	Production
QPB8958	5x7 QFN	50-1000	Push Pull	34	26	46	4.5	24	240	Production
QPB7464	SOIC 8	50-2600	Dual RF Amplifier	11.5	17.5	37	4.5	5	240	Production
TAT7472A1F	SOIC 8	50-1218	Dual RF Amplifier	15.4	24.5	44	2.5	5	320	Production
RFCA8828	SOIC 8	50-1218	High Linearity RF Amplifier	16.4	25	44	2.75	5	293	Production
TAT7469	SOIC 8	50-1218	Dual RF Amplifier (TIA)	17.5	-	38	3.2	5	250	Production
TAT7467E1F	SOIC 8	50-1218	Dual RF Amplifier	18	25	43	4.7	5	380	Production
RFCA8830	SOIC 8	45-1218	High Linearity RF Amplifier	19	24	40	2.5	5	280	Production
TGA2803-SM	4x4 QFN	40-1218	RF Gain Block (TIA)	20	-	42	1.5	8	350	Production
QPB8808	5x7 QFN	50-1218	Power Doubler	20.5	33	50	4.5	12	525	Production
TAT8804D1H	5x7 QFN	50-1218	Power Doubler	21	34	49	4.5	12	650	Production
QPB8857	5x7 QFN	50-1218	Power Doubler	28	30	53	4.5	24	440	Production
QPB8858	5x7 QFN	50-1218	Push Pull	34	27	48	4.5	24	290	Production
QPL8830	SOIC 8	5-1218	High Gain High Linearity	21	24	40	2.5	5	275	Target 12/2019
QPL8831	SOIC 8	5-1218	High Linearity RF Amplifier	17	24	42	3	5	275	Target 03/2020
QPL8832	SOIC 8	5-1218	High Linearity RF Amplifier	19	24	40	3	5	275	Target 03/2020
QPL8833	SOIC 8	5-1218	High Linearity RF Amplifier	15	24	40	3.5	5	275	Target 03/2020
QPL8834	SOIC 8	5-1218	High Linearity RF Amplifier	12	24	40	4	5	275	Target 03/2020
QPL7434	4x4 QFN	47-1218	Dual 7432 (TIA)	25	24	36	2.8 EINC	5	230	Target 01/2020

8 Port with MoCA Drop Amp: CATV

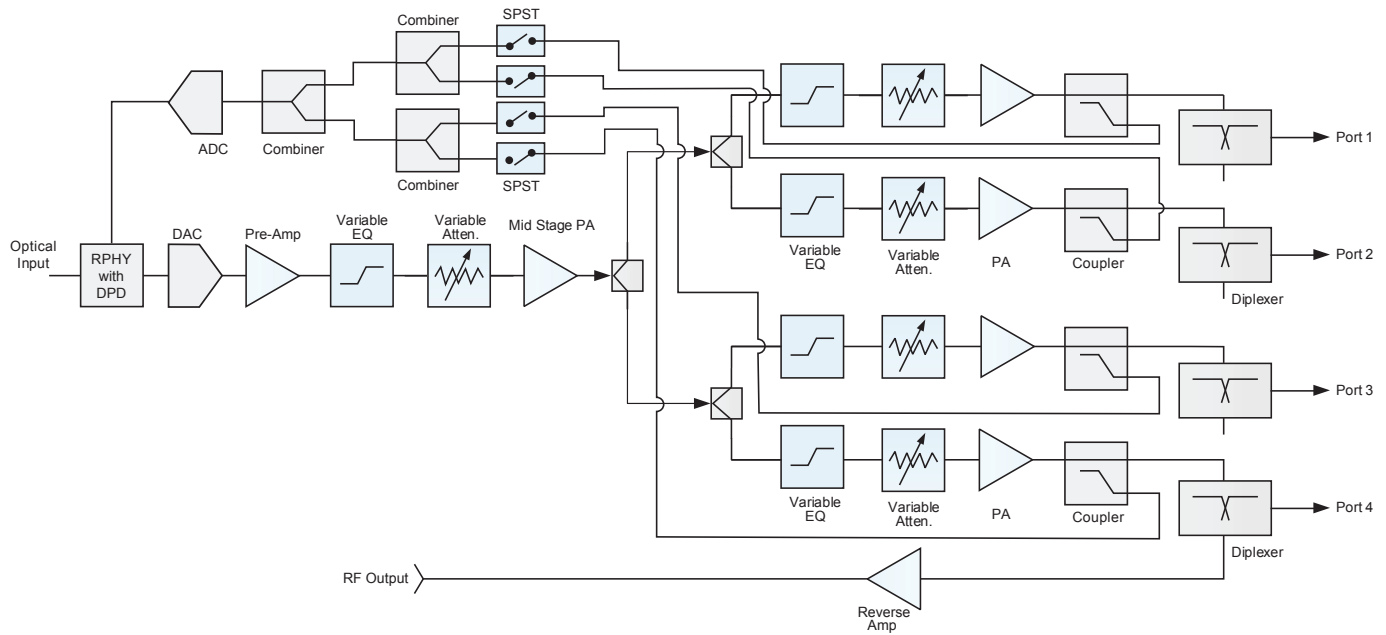


Single-Ended MMIC

Table (G)

Part Number	Package	Freq Range (MHz)	Product Description	Gain (dB)	P1dB (dBm)	Output IP3 (dBm)	Noise Figure (dB)	Vcc (V)	Icc (mA)	Release Status
QPB3311	SOIC 8	5-210	Return Path RF Amplifier	15	23.5	48	3.8	5, 8	172	Production
QPB3321	SOIC 8	5-210	Return Path RF Amplifier	17.5	24	48	3.4	5, 8	170	Production
QPB0066	6x6 MCM	5-500	Digital Controlled VGA	44	23	40	3.5	8	240	Target 11/2019
RF2312	SOIC 8	5-725	High Linearity Amplifier	15	21	36	3.8	5	100	Production
RFCA3310	SOT 89	5-1000	High Linearity Amplifier	14.5	22	33.5	3.6	8.5	147	Production
RF2317	CJ2BATO	5-3000	Linear Amplifier	15	22	43	4.8	9	180	Production
TAT7461	SOT 89	50-1000	General Purpose RF Amplifier	16.1	-	39	2.3	6	130	Production
TAT7461A6A	SOT 89	50-1000	RF Amplifier 7461 Screened S22	16.1	-	36	2.3	6	130	Production
TAT7427BT1	SOT 89	50-1000	High Gain RF Amplifier	18.5	-	38	2.5	6-8	145	Production
RFCA3306	SOT 89	50-1000	High Linearity Amplifier	21	24.5	36.7	3	8	140	LTB 12/10/2019
TAT7430B	SOT 89	50-1000	High Gain RF Amplifier	22	22	41	2	5-8	190	Production
QPB7400	SOT 89	47-1218	Adjustable Gain RF Amplifier	9-11	17	41	3.5	5	105	Production
TAT7460	SOT 89	50-2600	General Purpose RF Amplifier	17	20.5	36	2.5	5	100	Production
TAT7460B1A	SOT 89	50-2600	General Purpose RF Amplifier	17	20	38	3	5	90	Production
TAT7457	SOT 89	50-1218	Adjustable Gain Amplifier (TIA)	19	21	40	2.3	5-8	120	Production
QPB7420	SOT 89	47-1218	Low Noise Amplifier	20	20	35.5	1.2	3, 5, 8	50	Production
RFCA3828	SOT 89	50-1218	High Linearity Amplifier	21	22.5	39	1.54	6	169	Production
QPB7425	SOT 89	47-1218	Low Noise Amplifier	25	24.7	39	1.1	3, 5, 8	105	Production
QPB7432	SOT 89	47-1218	Low EINC Optical Rec Front End	32	20	-	0.6	5	105	Production
QPL7433	2x2 DFN 8	44-3300	Low Noise Amplifier	17	20	37	2.5	5	85	Target 02/2020
QPL7442	2x2 DFN 8	44-4000	Low Noise Amplifier	20	20	37	2.5	5	85	Target Q2 2020

4 Port Optical Node with Feedback for DPD and Four SPST Switches



Control Products

Switches

Table (H)

Part Number	Package	Product Description	Freq Range (MHz)	Impedance (Ω)	Insertion Loss (dB)	Isolation (dB)	P1/0.1dB (dBmV)	IP3 (dBm)	Vcc (V)	Release Status
QPC3024	4x4 QFN	SPDT Absorptive Switch	5-3000	75	0.82	66	36/36	61	3-5	Production
QPC6742	1.8x1.8 QFN	SP4T Reflective Switch	5-2000	75	0.40	30	40.2/34	82	3-5	Production
QPC6762	2x2 QFN	SP6T Reflective Switch	5-2000	75	0.40	34	37/33	75	3-5	Production
QPC4270	3x3 QFN	SPST Absorptive Switch	5-3000	75	0.30	60	37	65	3	Target 01/2020
QPC7512	2x2 QFN	SPDT Reflective Switch	5-3300	75	0.30	36	-	75	3-5	Target 01/2020
QPC7522	1.1x1.5 LGA	SPDT Reflective Switch	5-3300	75	0.25	46	-	73	5	Target 02/2020

Voltage Controlled Attenuators (VCAs)

Table (I)

Part Number	Package	Product Description	Freq Range (MHz)	Impedance (Ω)	Insertion Loss (dB)	P1dB (dBm)	Range (dB)	IP3 (dBm)	Vcc (V)	Release Status
RFSA3043	3x3 QFN	Voltage Controlled Attenuator	5-3000	75	1.5	30	30	50	3-5	Production

Digital Step Attenuators (DSAs)

Table (J)

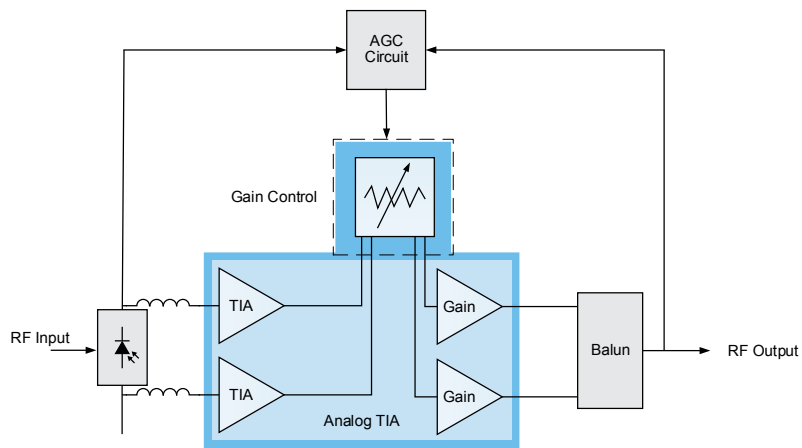
Part Number	Package	Product Description	Freq Range (MHz)	Impedance (Ω)	Insertion Loss (dB)	Step Size (dB)	Range (dB)	IP3 (dBm)	Vcc (V)	Release Status
QPC3624	4x4 QFN	6-Bit Digital Step Attenuator	47-2000	75	1.2	0.5	31.5	55	3.3	Production
QPC3614	4.2x4.2 QFN	6-Bit Digital Step Attenuator	5-1500	75	1.2	0.5	31.5	65	5	Production

Voltage Controlled Equalizer

Table (K)

Part Number	Package	Product Description	Freq Range (MHz)	Impedance (Ω)	Insertion Loss (dB)	Return Loss (dB)	Tilt Range (dB)	IP3 (dBm)	Vcc (V)	Release Status
QPC7336	6x6 MCM	Voltage Controlled Equalizer	45-1218	75	2.75	16	0.5-22	50	5	Production
QPC7334	6x6 MCM	Voltage Controlled Equalizer	5-700	75	2.75	16	0.5-15	50	5	Target 03/2020
QPC7335	6x6 MCM	Voltage Controlled Equalizer	45-1000	75	2.75	16	0.5-22	50	5	Target 03/2020
QPC7337	6x6 MCM	Voltage Controlled Equalizer	45-1800	75	2.75	16	0.5-22	50	5	Target 05/2020

Optical Video RCVR for RFoG or XPON Receiver: Fiber to the Home



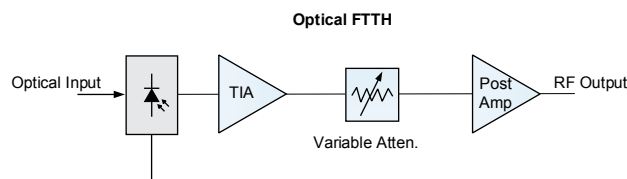
Optical

FTTH Optical Receive Amplifiers

Table (L)

Part Number	Package	Optical Rx	Freq Range (MHz)	Gain (dB)	Power Consumption		P_{out} dBmV/Channel (dBmV)	Optical Input Power MIN/MAX (dBm)	Equivalent Input Noise (pA/rHz)	Release Status
					Current (mA)	Voltage (V)				
TAT6254B	4x4 QFN	Optical Video Receiver	47-1000	38	100	12	14	-12/-2	3.0	Production
TAT6254C	4x4 QFN	Optical Video Receiver	47-1000	33	120	12	23	-10/+2	3.9	Production
QPB8888	4x4 QFN	Optical Video Receiver	45-1218	37	130	12	23	-10/+2	3.5	Production
QPB9015	11x11 MCM	xPON Optical Video Receiver with Integrated Attenuator	45-1218	37	300	5	23	-10/+2	3.5	Production
QPB9010	11x11 MCM	xPON Optical Video Receiver with Integrated Attenuator	45-1218	37	135	12	23	-10/+2	3.5	Production
RFOS6012, 3	Hybrid	Optical Receiver 1.2 GHz Module	-	31	245	24	-	-	-	Production
OS10040320PW	Hybrid	Optical Receiver 1 GHz Module	-	32	255	24	-	-	-	Production
OS10040280GW	Hybrid	Optical Receiver 1 GHz Module	-	28	245	24	-	-	-	Production

Optical Reference Design



Transformers and Protection

Transformers

Table (M)

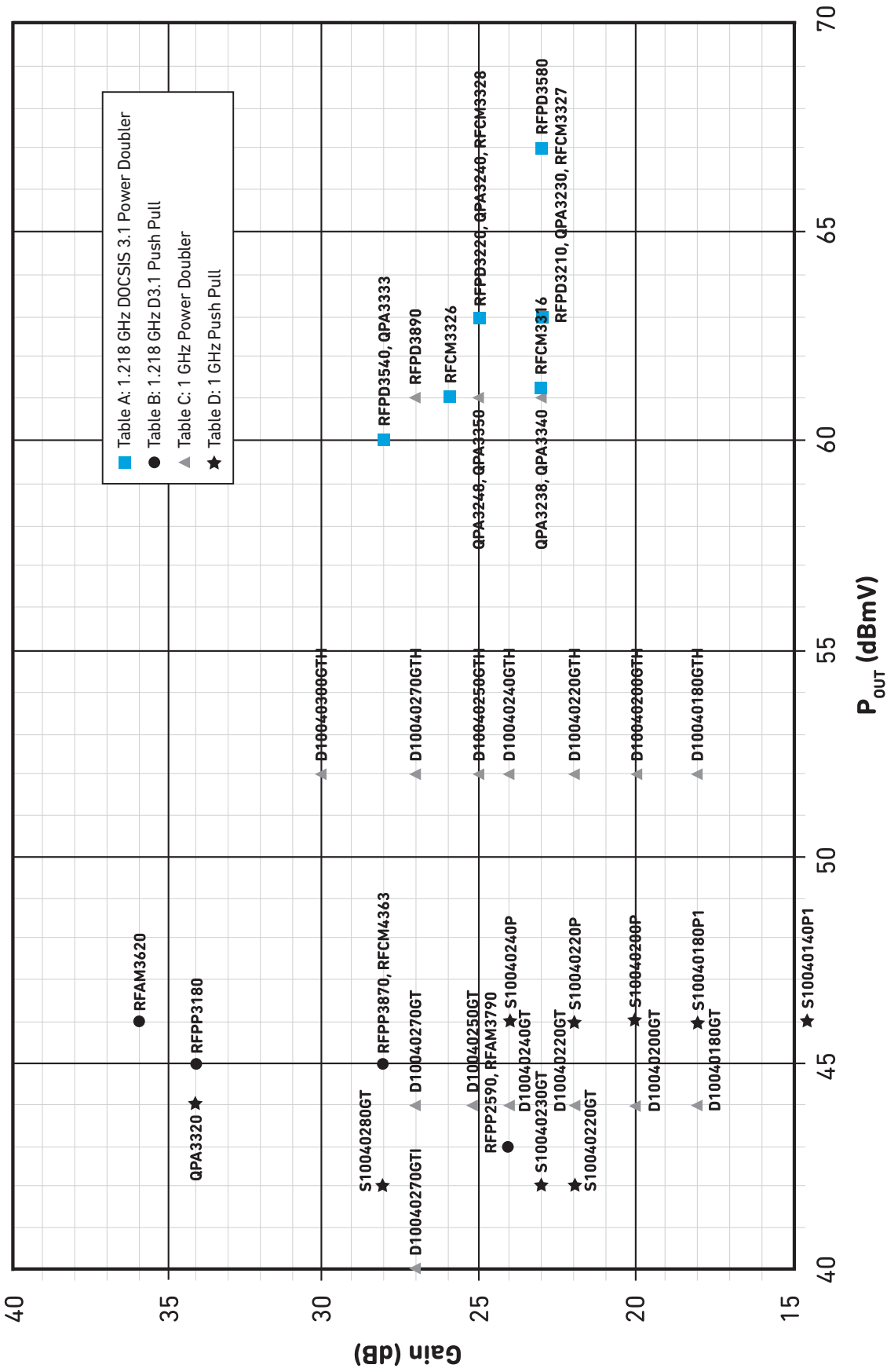
Part Number	Package	Freq Range (MHz)	Product Description	Insertion Loss @ 50 MHz (dB)	Amplitude Balance (dB)	Phase Balance (deg)	Impedance Ratio	Input Return Loss (dB)	Type Transmission Line	Release Status
RFXF0006H	SP5	45-1218	1:1 SMT Transformer, 75 Ω	1.3	0.4	4	1:1	15	Unbalanced to Balanced	Production
RFXF0008H	SP6	45-1218	1:2.78 SMT Transformer, 75 Ω	1.6	0.3	2	1:2.78	14	Balanced to Balanced	Production
RFXF0009H	SP5	45-1218	1:1 SMT Transformer, 75 Ω	0.4	1.3	5	1:1	25	Unbalanced to Balanced	Production

Protection

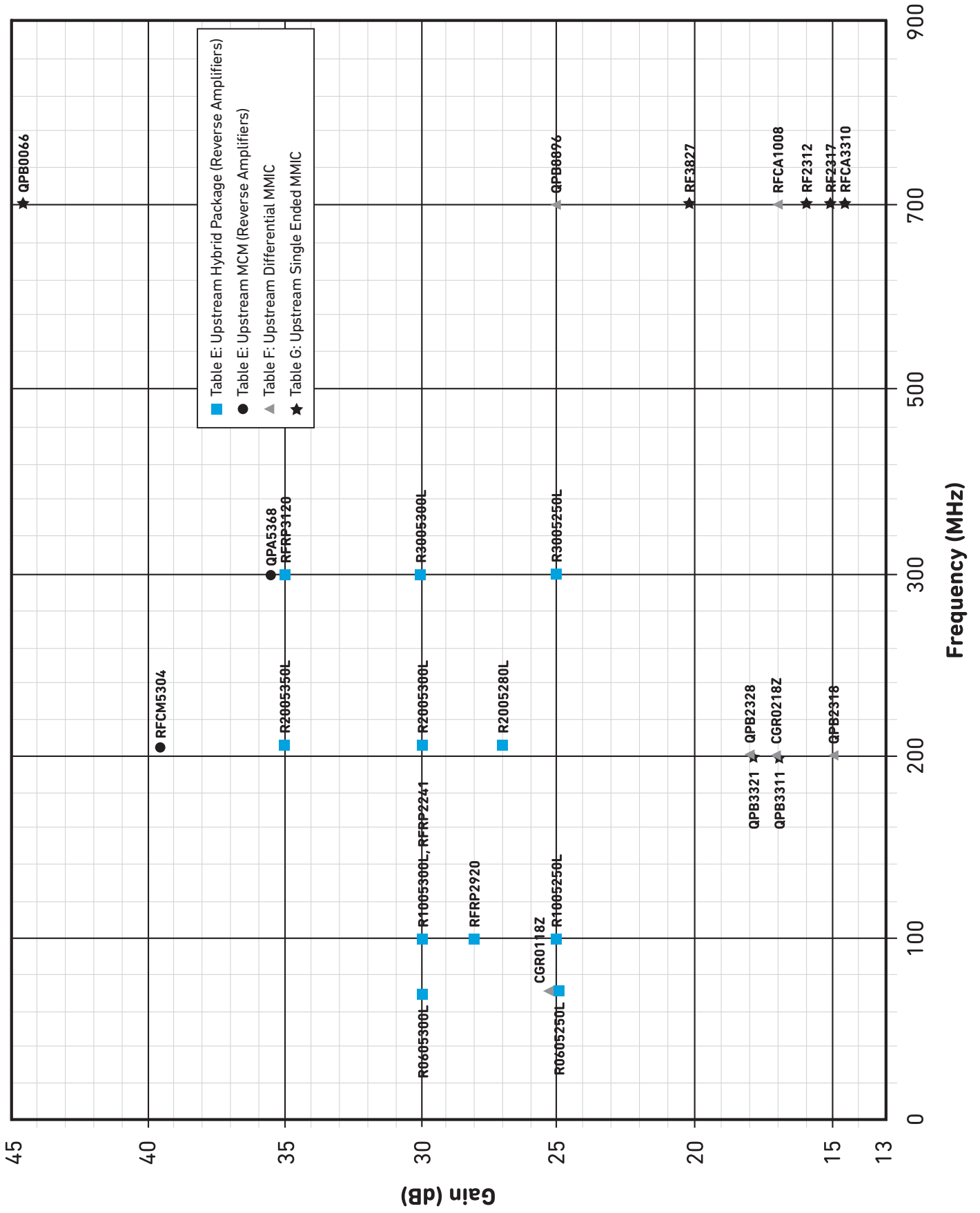
Table (N)

Part Number	Package	Freq Range (MHz)	Product Description	Insertion Loss @ 50 MHz (dB)	Amplitude Balance (dB)	Phase Balance (deg)	Impedance Ratio	Input Return Loss (dB)	Type Transmission Line	Release Status
TQP200002	3pin TSLP	50-1200	ESD Protection Diode	0.3	41	-52	-63	15 @ 1V 300 @ 15V	220 @ 1V, 10 MHz	Production

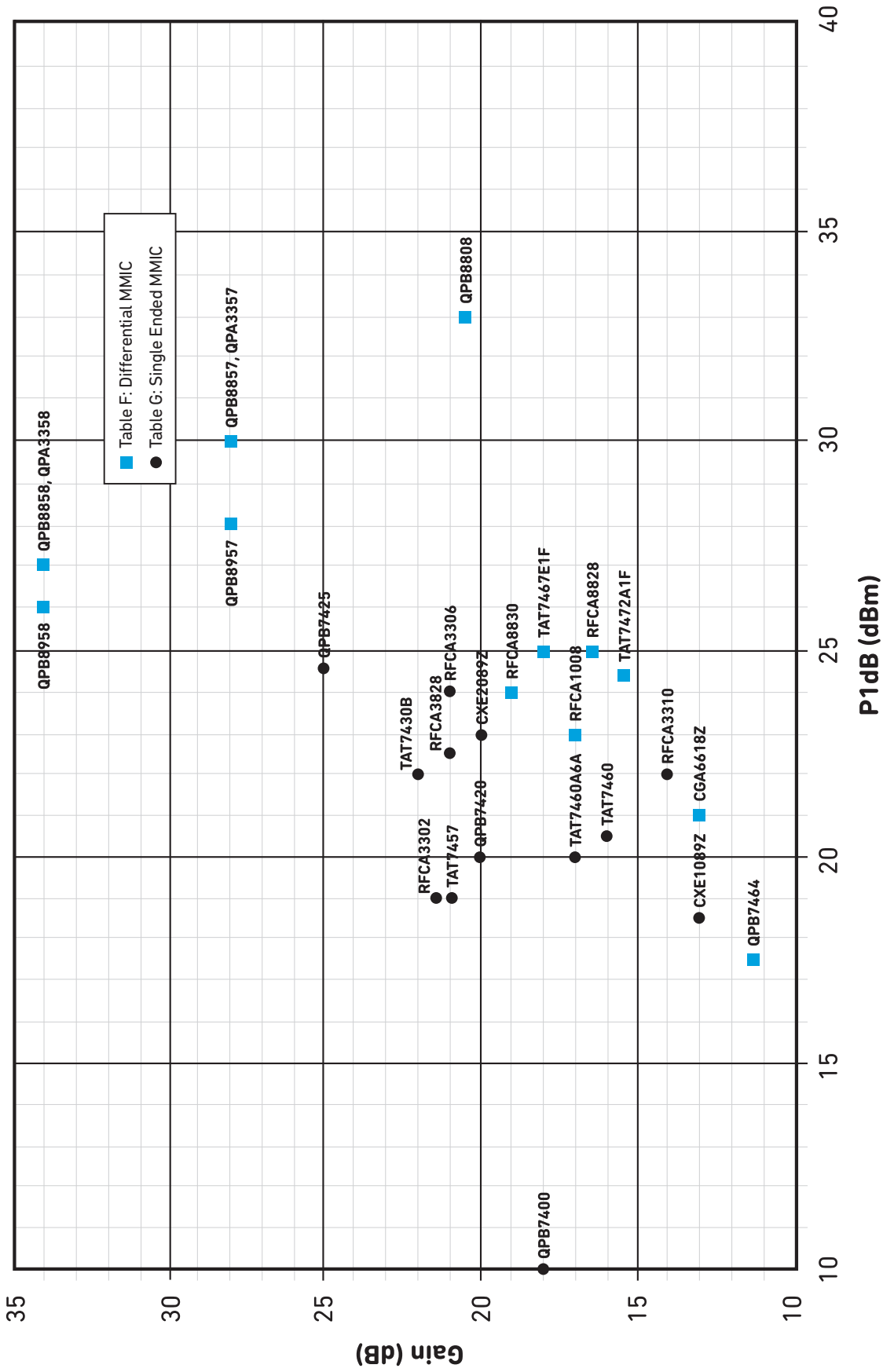
Downstream High Power (40-67 dBmV)



Upstream Amplifiers



Downstream MMIC

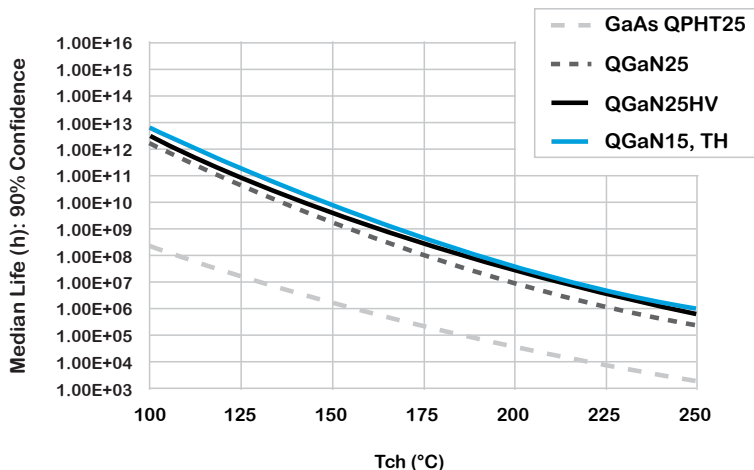


Gallium Nitride Innovation

Qorvo has driven innovation and development of gallium nitride (GaN) products and technologies that enable next-generation systems for over 15 years. With Qorvo, not only are you getting world-class electrical performance, our partners also benefit from a 'trusted' supplier with industry-leading GaN reliability. Qorvo is also the only GaN supplier to reach manufacturing readiness level MRL 10.

Key Qorvo GaN attributes:

- >65 million device hours on 16,900 devices in the field, with less than 0.013% failures per million hours
- Applications from DC through Ka-band
- High power density
- Proven reliability at high junction temperatures, mean time to failure (MTTF) of greater than 10^7 (10 million) to 10^9 (1 billion) hours at 200 degrees (C) and greater than 10^6 (1 million) to 10^8 (100 million) hours at 225 degrees (C)



Guide to Qorvo CATV Product Packages

 LGA	 4x4 QFN	 SP5	 SP6
 MCM	 SOT115J	 5x7 QFN	 DFN (T/SLP-3)
 CJ2BAT0	 SOIC16W	 SOIC8	 SOT89

1) All values are typical except where otherwise indicated.
2) Refer to individual product datasheets for test conditions.