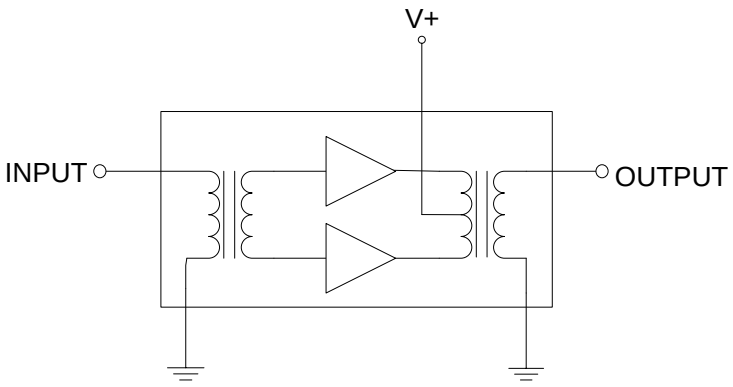
RFMD + TriQuint = Qorvo

RFPD3540

GaAs/GaN Power Doubler Hybrid
45MHz to 1218MHz

Package: SOT-115J

The RFPD3540 is a Hybrid Power Doubler amplifier module. The part employs GaAs MesFET, GaAs pHemt die and GaN HEMT die, has high output capability, and operates from 45MHz to 1218MHz. It provides excellent linearity and superior return loss performance with low noise and optimal reliability.



Functional Block Diagram

Features

- Extremely High Output Capability
- Excellent Linearity
- Superior Return Loss Performance
- Optimal Reliability
- Low Noise
- Unconditionally Stable Under All Terminations
- 27.0dB Min. Gain at 1218MHz
- 450mA Max. at 24VDC

Applications

- 45MHz to 1218MHz CATV Amplifier Systems
- DOCSIS 3.1 Compliant

Ordering Information

RFPD3540	Box with 50 pieces

Absolute Maximum Ratings

Parameter	Rating	Unit
RF Input Voltage (single tone)	75	dBmV
DC Supply Over-Voltage (5 minutes)	30	V
Storage Temperature	-40 to +100	°C
Operating Mounting Base Temperature	-30 to +100	°C

Caution! ESD sensitive device.

RoHS status based on EU Directive 2011/65/EU .

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

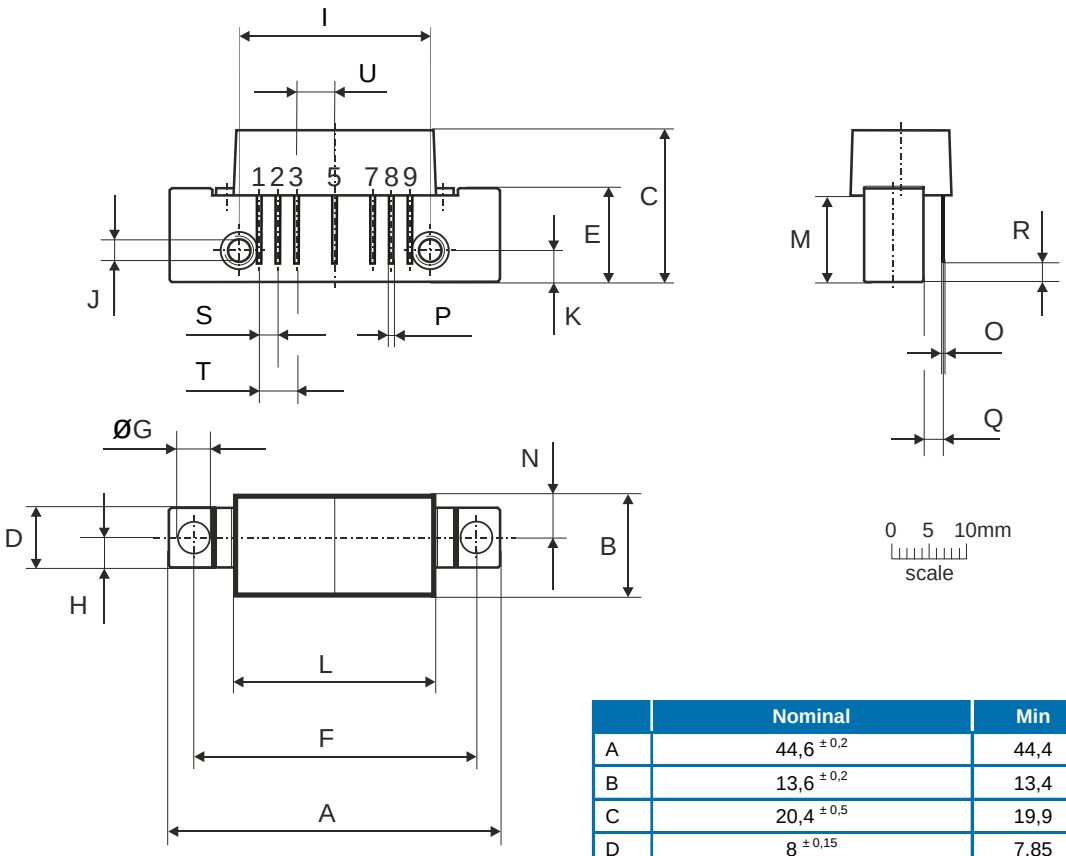
Electrical Specifications

Parameter	Specification			Unit	Condition
	Min	Typ	Max		
General Performance. Test conditions unless otherwise noted: V+ = 24V; TMB = 35°C; ZS = ZL = 75Ω					
Operating Frequency Range	45		1218	MHz	
Power Gain		27.0		dB	f = 45MHz
	27.0	28.0	29.0	dB	f = 1218MHz
Slope[1]	0.5	1.0	2.0	dB	f = 45MHz to 1218MHz
Flatness of Frequency Response			0.8	dB	f = 45MHz to 1218MHz
Input Return Loss	-20			dB	f = 45MHz to 320MHz
	-18			dB	f = 320MHz to 640MHz
	-17			dB	f = 640MHz to 870MHz
	-16			dB	f = 870MHz to 1000MHz
	-15			dB	f = 1000MHz to 1218MHz
Output Return Loss	-20			dB	f = 45MHz to 320MHz
	-19			dB	f = 320MHz to 640MHz
	-18			dB	f = 640MHz to 870MHz
	-17			dB	f = 870MHz to 1000MHz
	-16			dB	f = 1000MHz to 1218MHz
Noise Figure		5.1	5.5	dB	f = 50MHz to 1218MHz
Total Current Consumption (DC)		420	450	mA	

Parameter	Specification			Unit	Condition
	Min	Typ	Max		
Distortion Data 40MHz to 550MHz. Test conditions unless otherwise noted: V+ = 24V; TMB = 35°C; ZS = ZL = 75Ω					
CTB		-80		dBc	VO = 59dBmV at 1218MHz, 22dB extrapolated tilt, 79 analog channels plus 111 digital channels (-6dB offset)[2][4]
XMOD		-76		dBc	
CSO		-80		dBc	
CIN		55		dB	
Distortion Data 40MHz to 550MHz. Test conditions unless otherwise noted: V+ = 24V; TMB = 35°C; ZS = ZL = 75Ω					
CTB		-76	-72	dBc	VO = 58dBmV at 1218MHz, 16.5dB extrapolated tilt, 79 analog channels plus 111 digital channels (-6dB offset)[3][4]
XMOD		-70	-65	dBc	
CSO		-80	-70	dBc	
CIN	55	58		dB	

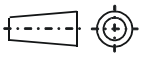
1. The slope is defined as the difference between the gain at the start frequency and the gain at the stop frequency.
2. 79 analog channels, NTSC frequency raster: 55.25MHz to 547.25MHz, +37dBmV to +46.4dBmV tilted output level, plus 111 digital channels, -6dB offset relative to the equivalent analog carrier.
3. 79 analog channels, NTSC frequency raster: 55.25MHz to 547.25MHz, +41.5dBmV to +48.5dBmV tilted output level, plus 111 digital channels, -6dB offset relative to the equivalent analog carrier.
4. Composite Second Order (CSO) - The CSO parameter (both sum and difference products) is defined by ANSI/SCTE 6. Composite Triple Beat (CTB) - The CTB parameter is defined by ANSI/SCTE 6. Cross Modulation (XMOD) - Cross modulation (XMOD) is measured at baseband (selective voltmeter method), referenced to 100% modulation of the carrier being tested. Carrier to Intermodulation Noise (CIN) - The CIN parameter is defined by ANSI/SCTE 17 (Test procedure for carrier to noise).

Package Drawing (Dimensions in millimeters)



Notes:

European Projection



Pinning:

Pin	Name
1	Input
2-3	GND
4	
5	V+
6	
7-8	GND
9	Output

	Nominal	Min	Max
A	44,6 ± 0,2	44,4	44,8
B	13,6 ± 0,2	13,4	13,8
C	20,4 ± 0,5	19,9	20,9
D	8 ± 0,15	7,85	8,15
E	12,6 ± 0,15	12,45	12,75
F	38,1 ± 0,2	37,9	38,3
G	4 +0,2 / -0,05	3,95	4,2
H	4 ± 0,2	3,8	4,2
I	25,4 ± 0,2	25,2	25,6
J	UNC 6-32	-	-
K	4,2 ± 0,2	4,0	4,4
L	27,2 ± 0,2	27,0	27,4
M	11,6 ± 0,5	11,1	12,1
N	5,8 ± 0,4	5,4	6,2
O	0,25 ± 0,02	0,23	0,27
P	0,45 ± 0,03	0,42	0,48
Q	2,54 ± 0,3	2,24	2,84
R	2,54 ± 0,5	2,04	3,04
S	2,54 ± 0,25	2,29	2,79
T	5,08 ± 0,25	4,83	5,33
U	5,08 ± 0,25	4,83	5,33

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Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

Web: **www.rfmd.com** **Tel: 1-844-890-8163**
Email: **customer.support@qorvo.com**

For information about the merger of RFMD and TriQuint as Qorvo:

Web: **www.qorvo.com**

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
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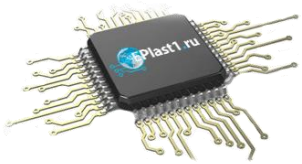
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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