MMIC WIDEBAND

Gain Equalizer

EQY-15-24+

50Ω 6 to 20 GHz

THE BIG DEAL

- 15.7 dB Slope
- Small Package 2.5 x 2.5 mm 8L MCLP
- Wide Bandwidth, 6-20 GHz
- Excellent Return Loss, 20 dB typ.



Generic photo used for illustration purposes only

CASE STYLE: JV3002

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

APPLICATIONS

- Fixed Satellite
- Mobile
- Military Systems
- ELINT
- EW
- ECM

PRODUCT OVERVIEW

Mini-Circuits EQY-15-24+ is a MMIC gain equalizer fabricated using highly repeatable GaAs IPD MMIC process incorporating resistors, capacitors and inductors to accomplish a positive attenuation slope vs. Frequency. EQY-15-24+ has a nominal attenuation slope of 15.7dB and can be applied to compensate for the negative gain slope of amplifiers to achieve relative gain flatness for the overall system. It is packaged in a tiny 2.5x 2.5mm, 8-Lead MCLP package .

KEY FEATURES

Feature	Advantages
Positive Attenuation Slope vs. Frequency	Positive Attenuation Slope vs. Frequency
Wideband Operation, 6 to 20 GHz	Supports a wide variety of applications including wireless cellular, microwave communications, satellite, defense and aerospace, medical and optical applications.
Excellent Power Handling Capability	Enables the product to be used at the output of an amplifier.
Small Size and simple to use (2.5 mm x 2.5 mm)	As a single chip solution, the EQY-15-24+ Series occupies less board space than a lumped element approach, minimizes component count and ensures repeatable performance over wide frequency range.

*GaAs IPD (Gallium Arsenide Integrated Passive Device)

REV. C
ECO-011107
EQY-15-24+
CM/CP/PS
220118

ELECTRICAL SPECIFICATIONS[1] AT 25°C, 50Ω, UNLESS OTHERWISE NOTED.

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		6		20	GHz
Insertion Loss	6	15.3	17.0	18.6	dB
	10	9.7	10.9	11.9	
	14	4.8	5.6	6.0	
	18	-	2.2	-	
	20	-	1.3	-	
VSWR	6 - 10	-	1.22	-	:1
	10 - 14	-	1.19	-	
	14 - 18	-	1.25	-	
	18 - 20		1.22	-	

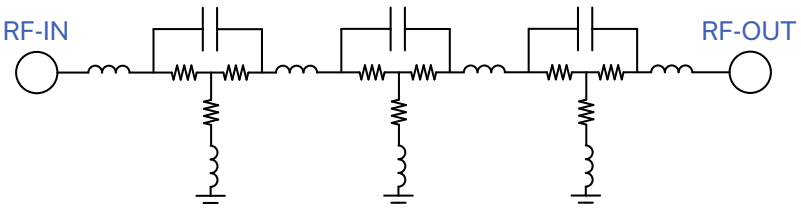
1. Measured on Mini-Circuits Characterization Test Board TB-EQY-15-24+. See Characterization Test Circuit (Fig. 1)

MAXIMUM RATINGS[2]

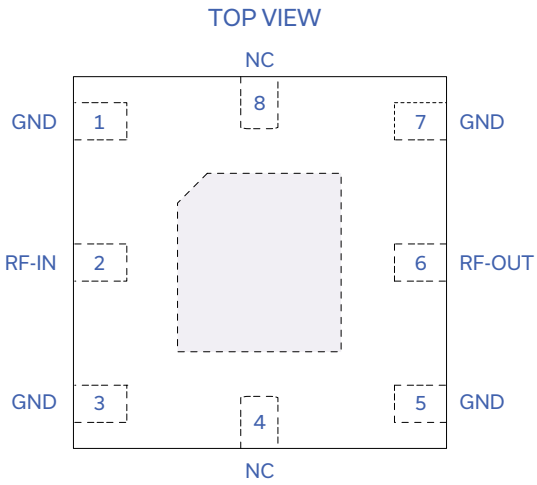
Parameter	Ratings
Operating Case Temperature	-55°C to 105°C
Storage Temperature	-65°C to 150°C
RF Input Power[3]	31 dBm

2. Permanent damage may occur if any of these limits are excedeed.
3. Derates linearly to 22 dBm at 105°C

SIMPLIFIED SCHEMATIC



PAD DESCRIPTION



Function	Pad Number	Description
RF-IN	2	Input Pad
RF-OUT	6	Output Pad
NC	4,8	No Connection Connects to ground on TB
GND	1,3,5,7 & Paddle	Ground

CHARACTERIZATION TEST CIRCUIT

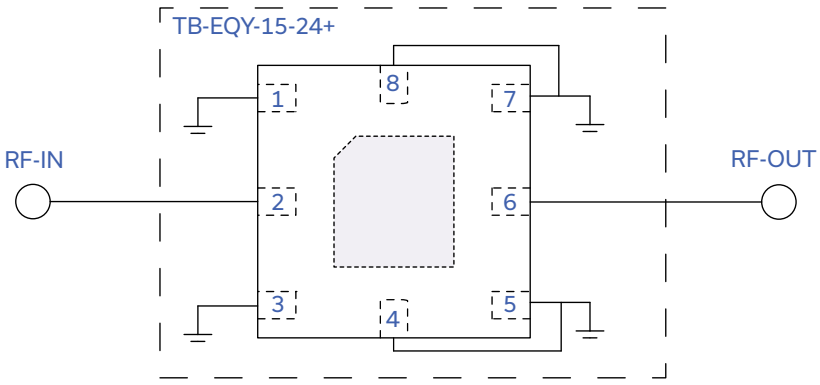
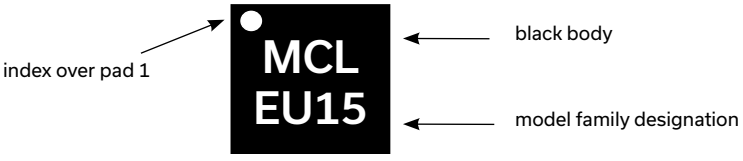


Fig 1. Block Diagram of Test Circuit used for characterization. Test Board TB-EQY-15-24+. Condition: Attenuation & Return Loss Pin =0dBm

PRODUCT MARKING



Marking may contain other features or characters for internal lot control

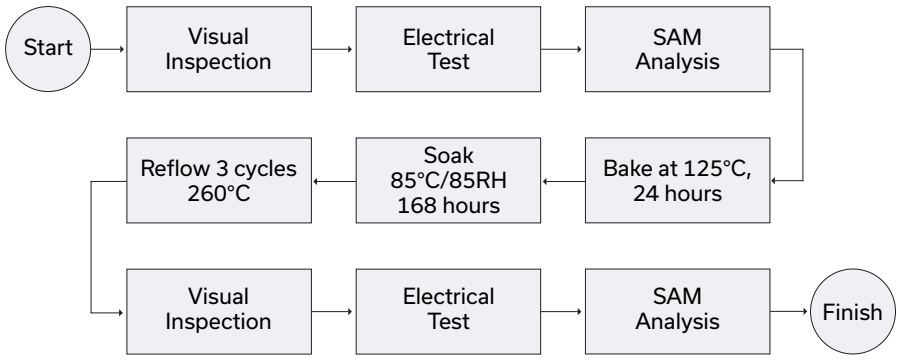
ADDITIONAL DETAILED TECHNICAL INFORMATION IS AVAILABLE ON OUR DASH BOARD. TO ACCESS CLICK HERE

Performance Data	Data Table Swept Graphs S-Parameter (S3P Files) Data Set (.zip file)
Case Style	JV3002 Plastic package, exposed paddle, lead finish: Matt Tin
Tape & Reel **Standard quantities available on reel**	TR-F68 7" reels with 20, 50, 100, 200, 500 or 1K devices
Suggested Layout for PCB Design	PL-718
Evaluation Board	TB-EQY-15-24+ (Without Connectors) TB-EQY-15-24C+ (With Connectors)
Environmental Ratings	ENV129

ESD RATING

Human Body Model (HBM): Class 1C (Pass 1000V) in accordance with ANSI/ESD STM 5.1 - 2001 Machine.

MSL TEST FLOW CHART



NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp