

Termination Insensitive Mixer



Rev. V5

Features

- LO 1 to 3400 MHz
- RF 1 to 3400 MHz
- IF 1 to 2000 MHz .
- LO Drive +17 dBm (nominal)
- High Intercept +25 dBm (typ)
- +260° Reflow Compatible

Description

The CSM4T17 is a termination insensitive mixer, designed for use in military, wireless, and test equipment applications. The design utilizes Schottky bridge quad diodes, broadband ferrite baluns and internal loads to provide excellent performance without degradation due to external VSWR mismatches.

Ordering Information

Part Number	Package	
CSM4T17	Surface Mount	

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +17 dBm (Downconverter application only)

Deremeter	Parameter Test Conditions		Typical	Guaranteed	
Parameter lest Conditions		Units		+25ºC	-40º to +85ºC
SSB Conversion Loss(max)	fR = 1 to 2400 MHz, fL = 1 to 2400 MHz, fI = 1 to 2000 MHz fR = 1 to 3400 MHz , fL = 1 to 3400 MHz , fI = 1 to 2000 MHz	dB	8.0 dB 9.0 dB	9.0 10.0	10.5 11.5
SSB Noise Figure		dB Within 1 dB of conversion loss			
L - R Isolation (min)	fL = 1 to 2400 MHz fL = 2400 to 3400 MHz	dB	35 25	25 20	23 18
L - I Isolation (min)	fL = 1 to 2400 MHz fL = 2400 to 3400 MHz	dB	35 25	25 20	23 18
R - I Isolation (min)	fR = 1 to 3400 MHz	dB	30		
1 dB Conversion Comp.	fL= +17 dBm	dBm	+14		
Input IP3	fR1 = 100 to 3400 MHz, $fR2$ = 100 to 3400 MHz, fL = 50 to 2000 MHz	dBm	+25		
R-Port VSWR	fR = 1 to 3400 MHz		2.0:1		
L-Port VSWR	fL = 1 to 3400 MHz		2.0:1		
I-Port VSWR	fl = 1 to 2000 MHz		2.0:1		

¹

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology

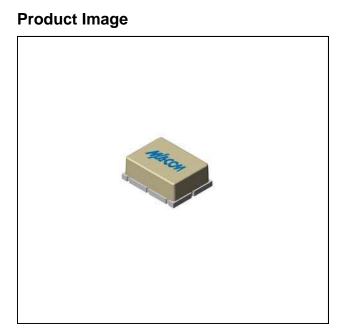
• North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400

• India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588

Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make Commitment to produce in volume is not guaranteed.

Visit www.macomtech.com for additional data sheets and product information.

changes to the product(s) or information contained herein without notice.



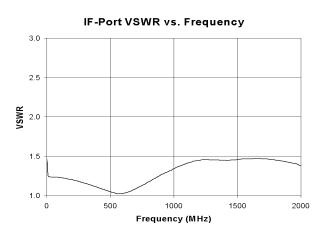
CSM4T17

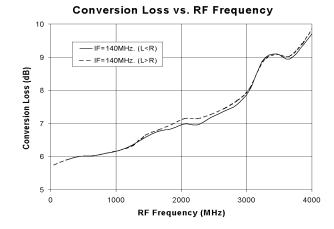
Termination Insensitive Mixer



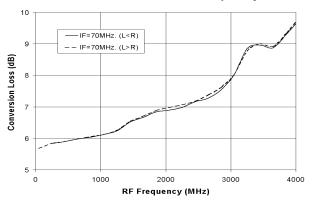
Rev. V5

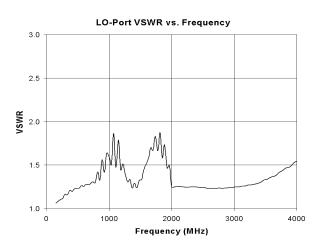
Typical Performance Curves



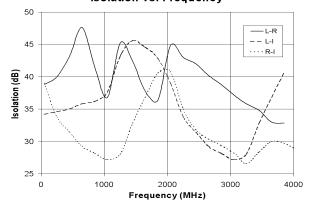


Conversion Loss vs. RF Frequency





Isolation vs. Frequency



RF-Port VSWR vs. Frequency

2

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology

Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

• North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400 • India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588

Visit www.macomtech.com for additional data sheets and product information.

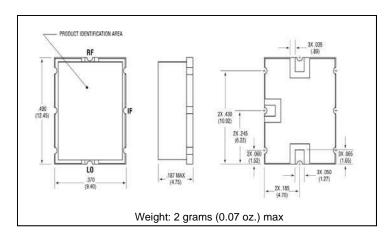
M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.



Termination Insensitive Mixer



Outline Drawing: Surface Mount



* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Operating Temperature	-40°C to +85°C	
Storage Temperature	-65°C to +100°C	
Peak Input Power	+20 dBm max @ +25°C +17 dBm max @ +85°C	
Peak Input Current	50 mA DC	

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed. North America Tel: 800.366.2266
Europe Tel: +353.21.244.6400
India Tel: +91.80.4155721
China Tel: +86.21.2407.1588

Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.