



LUMPED LC SURFACE MOUNT

Triplexer

TPLX-E3000+

50Ω DC to 3000 MHz (DC-100, 400-550, 1850-3000 MHz)

THE BIG DEAL

- Low Passband Insertion Loss, 0.4 dB Typ. at Lowpass and 0.6 dB Typ. at Bandpass and 0.7 dB Typ. at Highpass Channel
- Good Rejection, 66 dB Typ.
- Power Handling: 5 Watts
- Compact Size, 30.48 x 30.48 mm

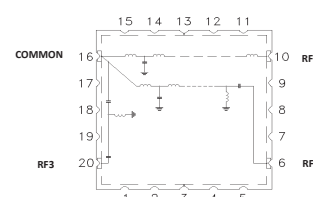


Generic photo used for illustration purposes only

APPLICATIONS

- Defense/Military

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' TPLX-E3000+ is a high performance 50Ω triplexer with the lowpass channel-1 at 1-100 MHz, bandpass channel-2 at 400-550 MHz and highpass channel-3 at 1850-3000 MHz. The channels are well isolated to minimize inter-channel interference and have minimal insertion loss through their respective bands. The triplexer is built in a shielded package, this triplexer finds its application in Defense/Military.

KEY FEATURES

Features	Advantages
Low Passband Insertion Loss, 0.4 dB Typ.	Very low insertion loss ensures less signal loss through all the channels.
Good Rejection, 66 dB Typ.	Rejection of 66 dB ensures sufficient isolation between the channels
Excellent power handling, 5W	Well suited for transmitter application
Miniature shielded package, 30.48 x 30.48 mm	Triplexer is designed into a surface mount package



ELECTRICAL SPECIFICATIONS AT +25°C

Parameter		Function (Port)	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass Channel-1 (RF COM-RF1)	DC-100	—	0.4	1	dB
		Band Pass Channel-2 (RF COM-RF2)	400-550	—	0.6	1	
		High Pass Channel-3 (RFCOM-RF3)	1850-3000	—	0.7	1.2	
	Return Loss	Low Pass Channel-1 (RF1)	DC-100	12	19	—	dB
		Band Pass Channel-2 (RF2)	400-550	12	16	—	
		High Pass Channel-3 (RF3)	1850-3000	10	13	—	
		Common (COM)	DC-100	12	15	—	
			400-550	12	15	—	
1850-3000			10	13	—		
Stop Band Rejection		Low Pass Channel-1 (RF COM-RF1)	400-2200	45	57	—	dB
		Band Pass Channel-2 (RF COM-RF2)	2200-3000	20	30	—	
			DC-100	50	66	—	
			1850-2300	40	55	—	
		2300-3000	—	27	—		
		High Pass Channel-3 (RFCOM-RF3)	DC-550	50	62	—	

ABSOLUTE MAXIMUM RATINGS¹

Parameter	Ratings
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C
Input Power ²	5W max. at 25°C

1. Permanent damage may occur if any of these limits are exceeded.

2. Power rating applies only to signals within the passband.



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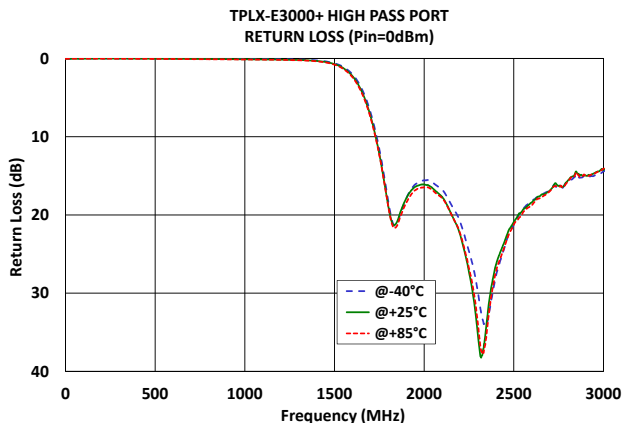
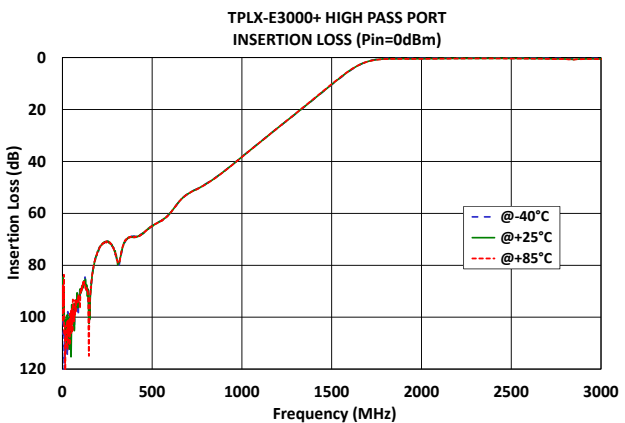
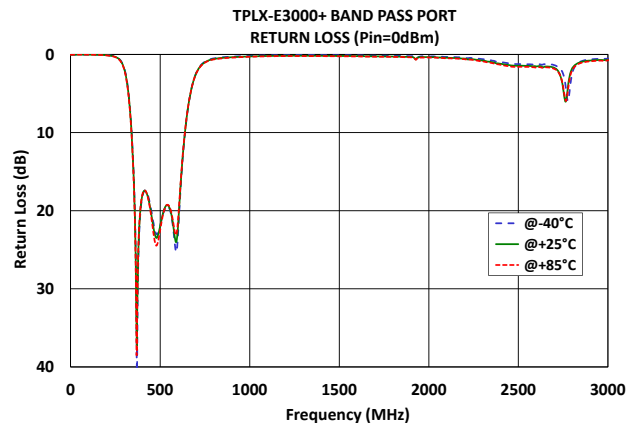
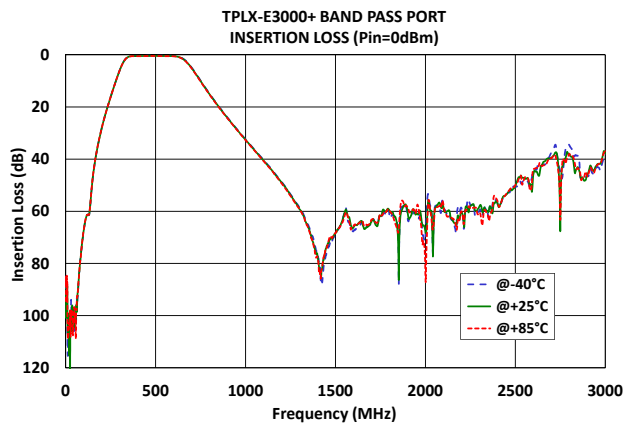
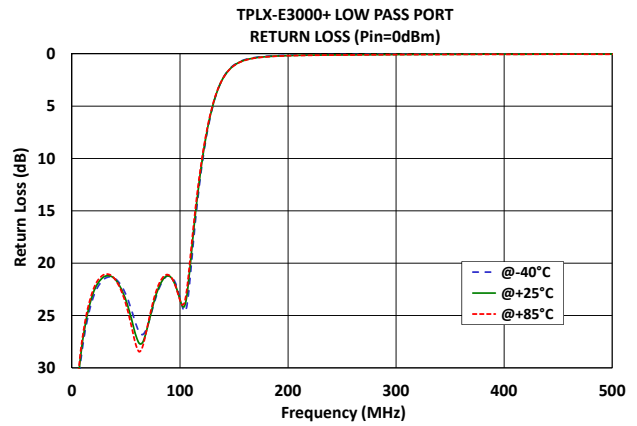
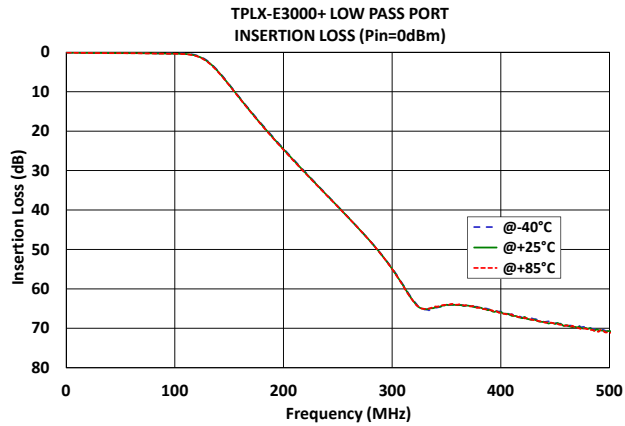
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TYPICAL PERFORMANCE GRAPHS





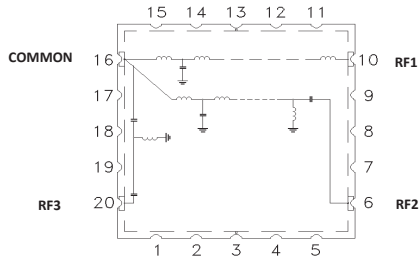
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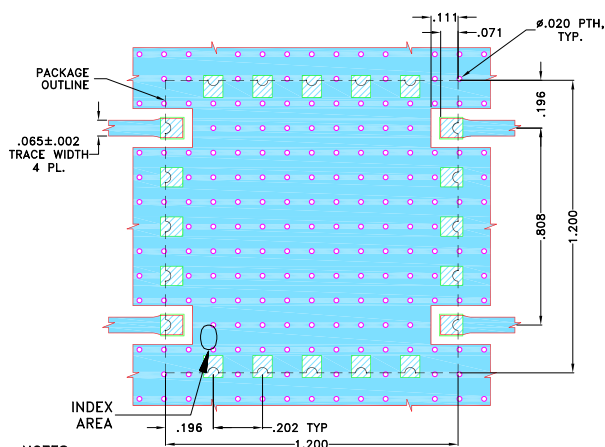
FUNCTIONAL DIAGRAM



PAD DESCRIPTION

Port	Pad Number	Description
COMMON	16	Connects to Common Port
RF1	10	Connects to Low Pass Port
RF2	6	Connects to Band Pass Port
RF3	20	Connects to High Pass Port
GROUND	1,2,3,4,5,7,8,9,11,12,13,14,15,17,18,19	Connects to Ground on PCB, (See drawing PL-409)
NC	—	No connection, not used internally. See drawing PL-409 for connection to PCB

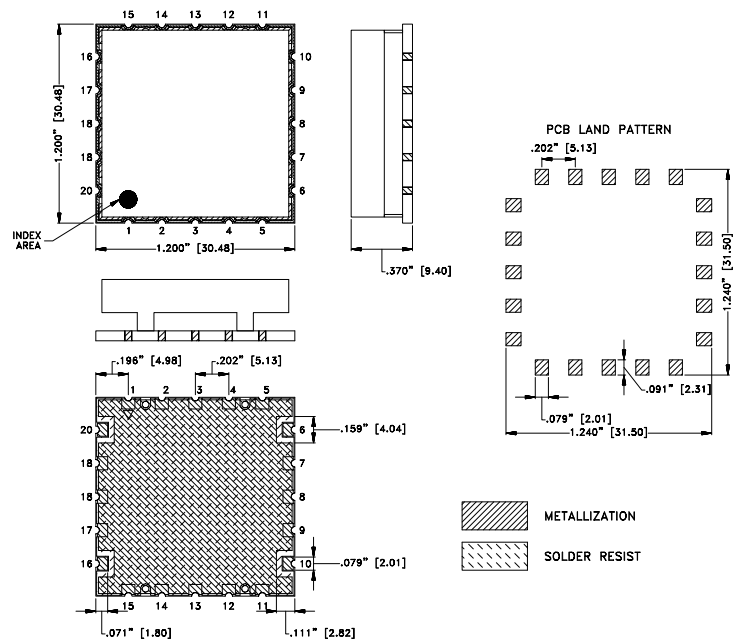
SUGGESTED PCB LAYOUT (PL-409)



NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .030"±.002". COPPER: 1/2 Oz. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
DENOTES PCB COPPER LAYOUT WITH SMOBC
(SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

CASE STYLE DRAWING



Weight: 8.5 grams
Dimensions are in Inches[mm]. Tolerance: 2PL±.03; 3PL±.015

PRODUCT MARKING*: TPLX-E3000

*Marking may contain other features or characters for internal lot control.



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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD.

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Performance Data and Graphs	Data
	Graphs
	S-Parameter (S4P Files) Data Set (.zip file) De-embedded to device pads
Case Style	HR1843 Lead Finish: Electroless Nickel Immersion Gold
RoHs Status	Compliant
Tape and Reel	TR-F80
Suggested Layout for PCB Design	PL-409
Evaluation Board	TB-TPLX-E3000+
	Gerber File
Environmental Rating	ENV02T1

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-Circuits' applicable established test performance criteria and measurement instructions.
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