

Feature

- Precision MEMS process
- High performance, shielded, Micro-cavity structure
- Silicon substrate, 50Ω CPW output
- Au wire bonding, for MCM applications

Environmental Specifications

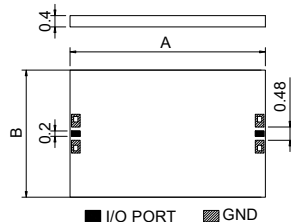
Operating Temperature	-55°C~+85°C
Storage Temperature	-55°C~+125°C
Max. Input Power	35dBm

Electrical Specifications($T_A=+25^\circ\text{C}$)

Parameter	Min.	Typ.	Max.	Unit
Center Freq. (f_0)	-	12.45	-	GHz
Pass Band	12.25	-	12.65	GHz
Ripple in Pass band	-	-	1	dB
Insertion Loss @ f_0	-	-	4.7	dB
Return Loss	12	-	-	dB
Out of band Attenuation	≥ 30 @11.8GHz&13.05GHz			dB
	≥ 40 @11.7GHz&13.1GHz			dB
	≥ 55 @DC~10GHz			dB
	≥ 55 @14~24GHz			dB
Group Delay Variation	≤ 0.5 @12.25~12.65GHz			ns
Linear Phase	$\leq \pm 2$ @12.25~12.65GHz			°

S2P file name: SiMS12R45_R4-8D4.s2p

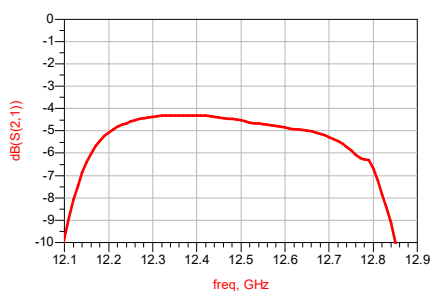
Outline Drawing



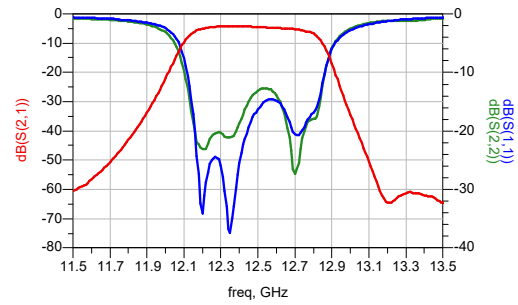
Symbol	Value (mm)		
	Min.	Nominal	Max.
A	11.4	-	11.5
B	4.4	-	4.5

Typical Test Curves

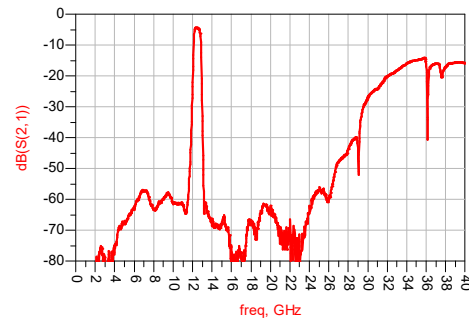
Insertion Loss VS Frequency ($T_A=25^\circ\text{C}$)



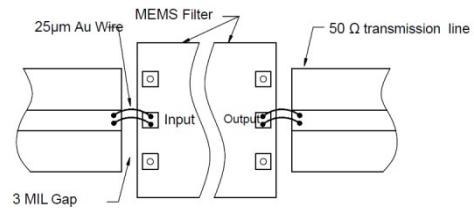
Insertion Loss & Return Loss VS Frequency ($T_A=25^\circ\text{C}$)



Broadband Insertion Loss VS Frequency ($T_A=25^\circ\text{C}$)

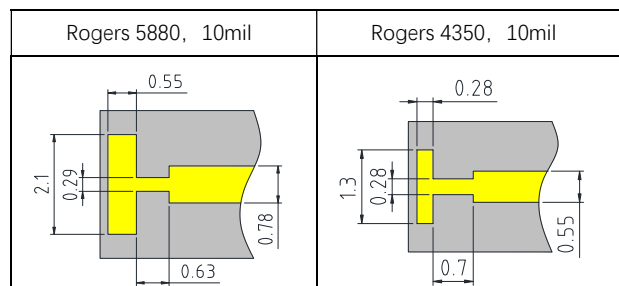


Recommended Assembly Diagrams



Application Notes:

1. The chip is back-metalized and can be die mounted with AuSn eutectic performs or with electrically conductive epoxy (for example ME8456).
2. The die should be assembled on carriers like Kovar or Mu-Cu which have same Coefficient of thermal expansion. (2.9ppm/°C) with Silicon, thickness 0.2mm max.
3. Handle the chips in a clean environment. DO NOT attempt to clean the chip using liquid cleaning systems.
4. Handle the chip along the edges with a vacuum collet or with a sharp pair of bent tweezers.
5. Recommended to use T structure as below for bonding.



6. If you have any questions, please contact us.