ATC // AVX TL MIM

Transmission Line
Metal-Insulator-Metal Capacitor

ATC//AVX Thin Film Technologies is pleased to introduce a novel MIM (Metal-Insulator-Metal) capacitor using a transmission line wire bond pad structure with backside ground. This structure provides a unique RF / microwave solution not available from traditional SLC structures.

The TL MIM can be supplied on quartz, alumina, glass and other substrates to minimize losses. Copper traces are used for optimal conductivity. Front and backside gold metalization make this device suitable for epoxy, gold wire bond/ribbon bond attachment techniques..

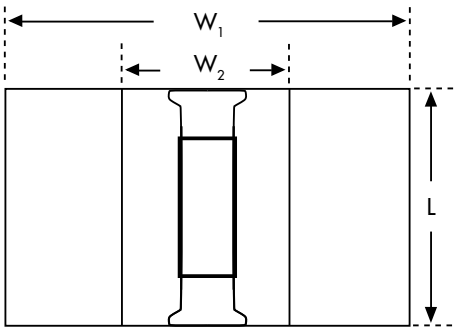
Features

- Various substrates for optimized RF/microwave performance
- HFSS optimized design unique for each device
- Copper conductor design for improved circuit conductivity
- Gold wire bondable for high reliability applications
- RoHS compliant

Capacitor Materials

Material	SiON
Rated Voltage	≤100
DF	≤0.1%
TCC	±60 ppm/°C
Specific Capacitance*	50 to 100 pF/mm^2

*Actual maximum capacitance values depend on transmission line dimensions.



Substrate W_1 or Substrate W_2
Length is determined by transmission line

Test Methods

Specification	Parameter	Method or Paragraph	Limit
MIL-STD-883	Bond Strength	2011.8	>3 gm min. w/ .001'' Au Wire
MIL-STD-883	Shear Strength	2018	Size dependant See procedure
MIL-STD-202	Life	108	1000 hrs @ 125°C w/ 2 x rated voltage

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Kit Values

Part Number	Substrate	Length (mils)	Width (mils)	Thickness (mils)	Cap Value (pF)
TM0404C1R0MQAW	Quartz	40	40	5	1
TM0404C5R0MQAW	Quartz	40	40	5	5
TM0404C150MQAW	Quartz	40	40	5	15
TM0204C1R0MQAW	Quartz	20	40	5	1
TM0304C150MABW	Alumina	30	40	10	15
TM0402C150MAAW	Alumina	40	20	5	15
TM0802C150MAAW	Alumina	80	20	5	15
TM0804C1R0MABW	Alumina	80	40	10	1
TM0804C150MABW	Alumina	80	40	10	15
TM3204C150MABW	Alumina	320	40	10	15
TM0404C150MABW	Alumina	40	40	10	15

How to Order

TM	04	02	C	N	150	M	Q	A	W
Series Code	**Substrate Length**	**Substrate Width**	**Working Voltage**	**Standard Impedance**	**Capacitance**	**Capacitance Tolerance**	**Substrate**	**Substrate Thickness (mils)**	**Packaging**
TM = MIM	in tens of mils	in tens of mils	C = 25 WVDC X = Other Contact Factory	A = 50 Ω X = Other, Contact Factory	capacitance code in pF First two digits = significant figures or R for decimal place. Third digit - number of zeros or after "R" significant figures.	M = ±20%	A = Alumina, Q = Quartz G =Glass X = Other, Contact Factory	A = 5 mils B = 10 mils C = 15 mils X = Contact factory	W = antistatic waffle pack T= tested, undiced D - Tested and diced on tape

ATC # 001-1130 Rev. B; 7/14

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