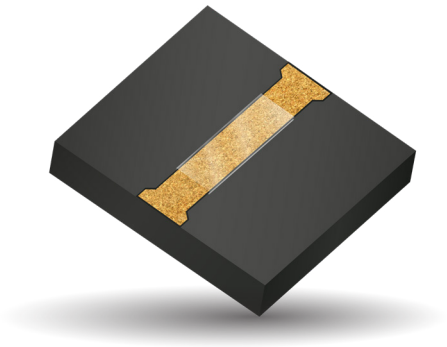
Transmission Line MIM Cacpacitor

(Metal-Insulator-Metal)

BENEFITS

- HFSS Design Unique for every device
- Gold Wirebondable
- Copper Conductor Design for improved Circuit Conductivity
- Designs Optimized for RF/Performance
- ROHS Compliant



DESCRIPTION

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.

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 epoxy, gold wire bond/ribbon bond attachments.

APPLICATIONS

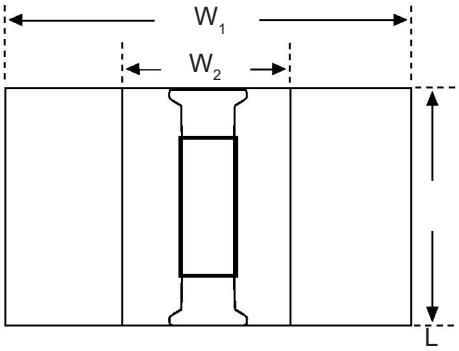
- DC Blocking at UHF
- High Frequency Link
- RF Microwave applications

SUBSTRATE MATERIALS

Fused Silica (Quartz)
Alumina (AI203)

MECHANICAL DIMENSIONS

Based on Transmission Line Design Request



Substrate W_1 or Substrate W_2
Length is determined by transmission line

CAPACITOR MATERIALS

Rated Voltage	Specific Capacitance	Dissipation Factor	TCC (ppm/°C)
<100	50 - 100 * pf/mm^2	<0.1%	±60

***Actual maximum capacitance values depend on transmission line dimensions**

TEST METHODS

SPECIFICATION		LIMIT
MIL-STD-883-2011.8	BOND STRENGTH	> 3 gm min. w/0.001” Au Wire
MIL-STD-883-2018	SHEAR STRENGTH	Size Dependent See Procedure
MIL-STD-202-108	LIFE	1000 hrs @ 125°C

Transmission Line MIM Cacpacitor

(Metal-Insulator-Metal)

GENERAL CHARACTERISTICS

CHARACTERISTIC	DESIGN DEPENDENT
Capacitor Range	0.3 - 50 Pf
Tolerance	± 20%
Backing	Gold Metalization
Termination Type	Gold Wire Bond

AVAILABLE PART NUMBERS

Part Number	Substrate	Length (mils)	Width (mils)	Thickness (mils)	Cap Value (pF)*
MV0404CA1R0MQAW	Quartz	40	40	5	1
MV0404CA5R0MQAW	Quartz	40	40	5	5
MV0404CA150MQAW	Quartz	40	40	5	15
MV0204CA1R0MQAW	Quartz	20	40	5	1
MV0304CA150MABW	Alumina	30	40	10	15
MV0402CA150MAAW	Alumina	40	20	5	15
MV0802CA150MAAW	Alumina	80	20	5	15
MV0804CA1R0MABW	Alumina	80	40	10	1
MV0804CA150MABW	Alumina	80	40	10	15
MV3204CA150MABW	Alumina	120	40	10	15
MV0404CA150MABW	Alumina	40	40	10	15

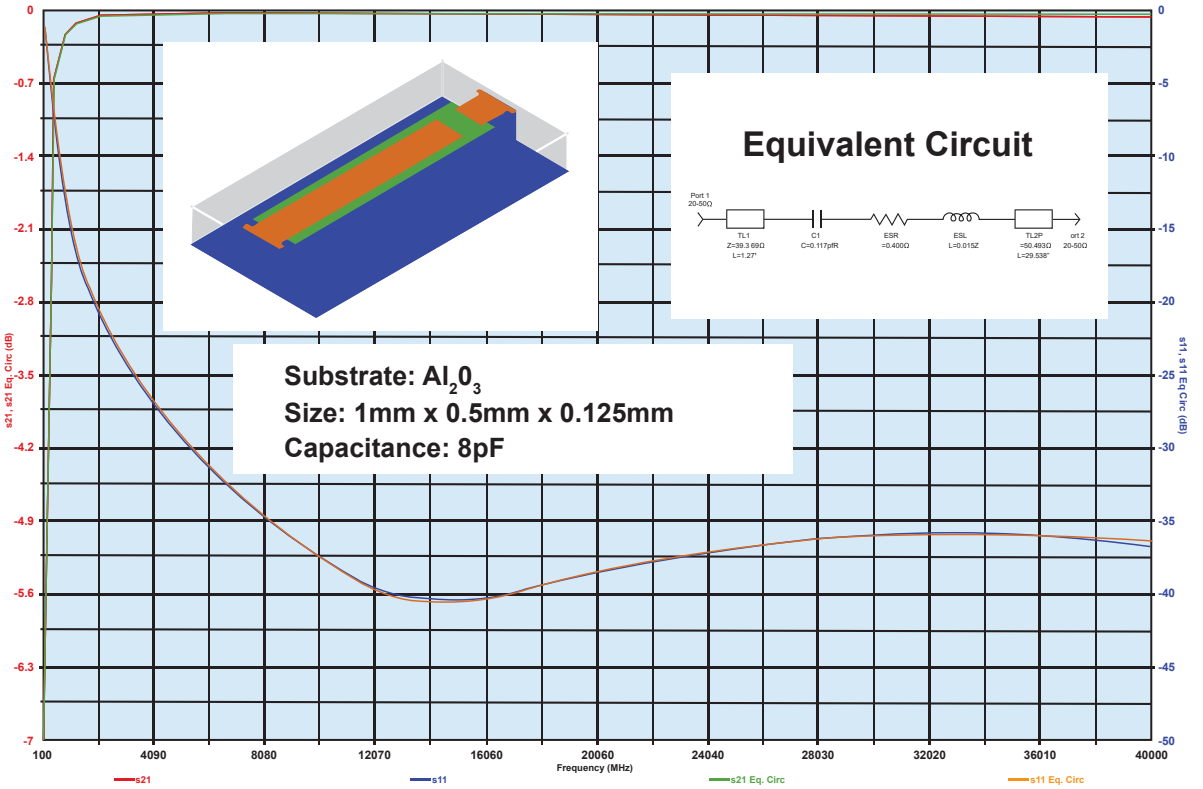
***Capable Capacitance Value Ranging From: 0.3-50 (pF)**
Most Common Capacitance Values Requested are 1, 5, and 15 (pF)

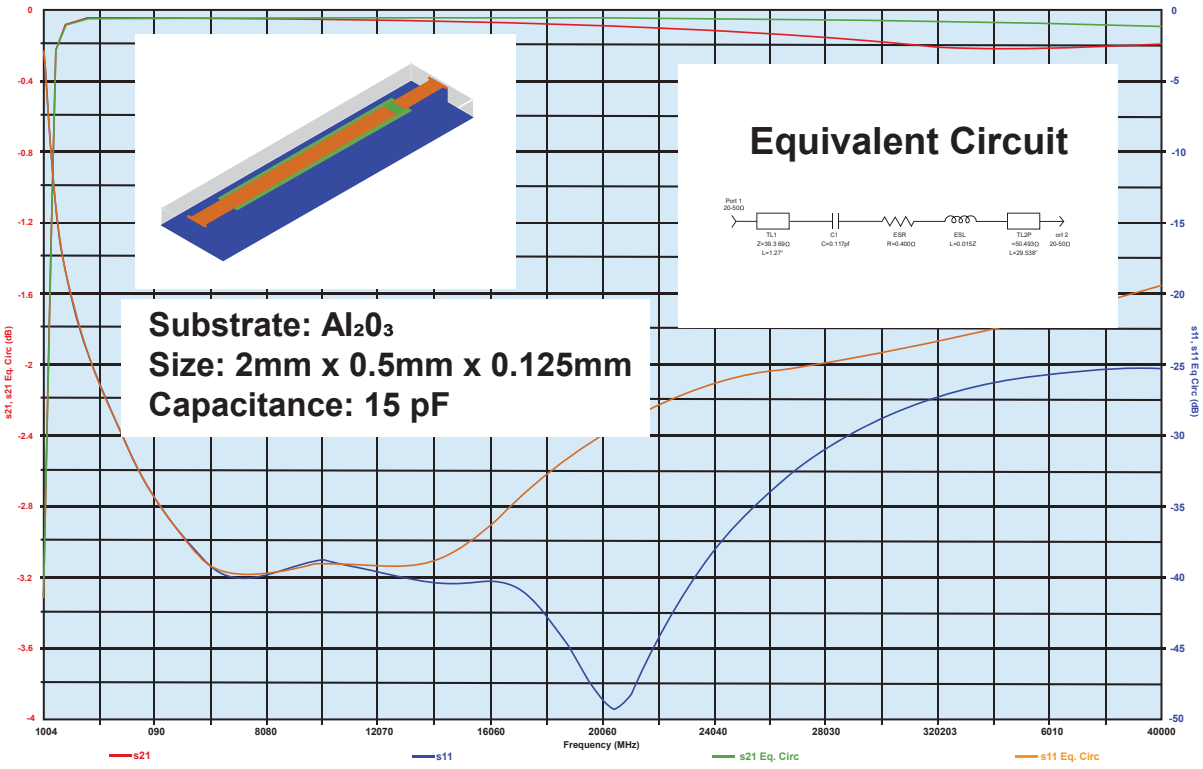
HOW TO ORDER

MV	04	02	C	A	150	M	Q	A	W
Series Code	**Substrate Length**	**Substrate Width**	**Working Voltage**	**Standard Impedance**	**Capacitance**	**Capacitance Tolerance**	**Substrate**	**Substrate Thickness (mils)**	**Packaging**
MV = TL MIM	in tens of mils	in tens of mils	C = 100 WVDC	A = 50Ω X = Other Contact Factory	capacitance code in pF First two digits = significant figures or R for decimal place. Third digit - number of zero or after "R" significant figures.	M = ± 20%	A = Alumina Q = Quartz G = Glass X = Other	A = 5 mils B = 10 mils C = 15 mils X = Contact Factory	W = anti-static waffle pack T = tested, undiced D = Tested and diced on tape

Transmission Line MIM Cacpacitor

(Metal-Insulator-Metal)





Transmission Line MIM Cacpacitor

(Metal-Insulator-Metal)