

# ATTENUATOR CHIP 1 WATT

DATA SHEET

PART SERIES: TS05XXWB1

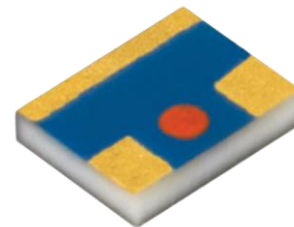
SHEET 1 OF 3  
Dwg 1004135ECO-076069  
Revision L

## FEATURES

Small Footprint  
High Power  
Surface Mount  
Low VSWR  
Easy Installation  
Wide Attenuation Offering

## APPLICATIONS

Mobile Networks  
Broadcast  
High Power Amplifiers  
Isolators/Circulators  
Military  
Instrumentation



## GENERAL DESCRIPTION

EMC Technology offers the widest selection of chip attenuators worldwide. Chip components are offered in Alumina, Aluminum Nitride, Beryllium Oxide, and CVD diamond for maximum performance.

## ORDERING INFORMATION

**Part Identifier: TS05XXWB1**  
(XX) – dB Value

## SPECIFICATIONS

### 1.0 ELECTRICAL

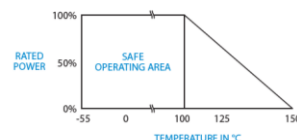
Nominal Impedance: 50  $\Omega$   
Frequency Range: DC – 12.4 GHz  
Attenuation Values Available: 0 – 20 in 1 dB increments  
Attenuation Accuracy:

ATTENUATION ACCURACY			
dB	DC – 4 GHz	4 – 8 GHz	8 – 12.4 GHz
0	-0, +.3	-0, +.5	-0, +.5
1 – 3	$\pm 0.3$	$\pm 0.5$	$\pm 0.5$
4 – 6	$\pm 0.4$	$\pm 0.5$	$\pm 0.5$
7 – 10	$\pm 0.5$	$\pm 0.5$	$\pm 0.75$
11 – 15	$\pm 0.75$	+0.5, -3.0	+0.5, -3.5
16 – 20	$\pm 1.0$	+0.5, -4.0	+1.0, -6.0

Input Power CW:

Power Rating		POWER RATING							
		dB Values	Watts	dB Values	Watts	dB Values	Watts	dB Values	Watts

## Power Derating Curve



Peak Power: 1 watt for 10 $\mu$ s pulse width @ 1% duty cycle.  
VSWR: DC – 4 GHz - 1.25 Max  
4 – 8 GHz - 1.35 Max  
8 – 12.4 GHz - 1.50 Max

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## 2.0 ENVIRONMENTAL

Operating Temperature:	-55°C to +150°C
Non-operating Temperature:	-65°C to +150°C
Temperature Coefficient:	+/-200 PPM / °C max
Altitude Non-Operating	Sea level to 50,000 feet.
Altitude Operating:	Sea level to 50,000 feet.
Vibration:	Per MIL-STD-202, METHOD 204, COND. D.
Shock:	Per MIL-STD-202, METHOD 213, COND. I
Moisture resistance:	Per MIL-STD-202, METHOD 106 except subcycle steps 7a and 7b and polarization and load are not applicable.

## 3.0 MARKING

Unit Marking:	Marked only with color dot.
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## 4.0 QUALITY ASSURANCE

Sample inspect per ANDI/ASQC Z1.4 general inspection, level II, AQL = 1.0.

Visual and mechanical examination for conformance to outline dwg requirements.

Perform inspection in accordance with 824W170 and 824F036 for commercial grade product.

Test data requirements:

No test data required for customer.

Data retention – 24 months packaging

Standard Packaging:	Tape and Reel
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## 5.0 MECHANICAL

Resistive Film:	Thin Film, Tantalum Nitride
Terminal Material:	Thick Film, Bondable Gold.
Ground Plane Material:	Thick Film
Metric Dimensions:	Provided for reference only
Workmanship	PER MIL-PRF-55342

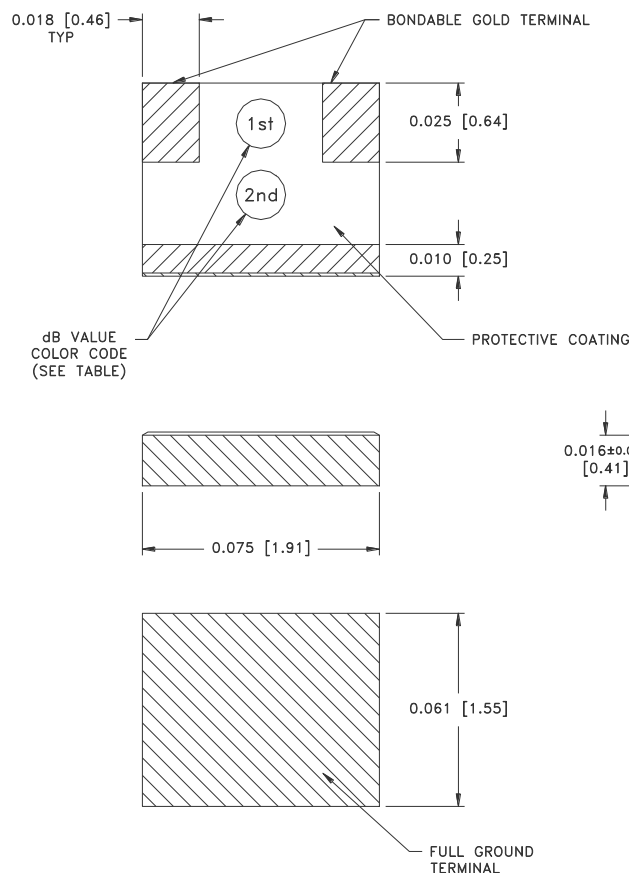
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REFERENCE TABLE					
dB VAL	DOT COLOR		dB VAL	DOT COLOR	
0	1st	2nd	11	1st	2nd
1	BLK	---	12	BRN	BRN
2	BRN	---	13	BRN	RED
3	RED	---	14	BRN	ORG
4	ORG	---	15	BRN	YEL
5	YEL	---	16	BRN	GRN
6	GRN	---	17	BRN	BLU
7	BLU	---	18	BRN	VIO
8	VIO	---	19	BRN	GRY
9	GRY	---	20	BRN	WHT
10	WHT	---			
	BRN	BLK			



Unless Otherwise Specified: TOLERANCE: X.XXX = ± 0.005