

## ATTENUATOR HIGH RELIABILITY CHIP

DATASHEET

PART SERIES: HR93XXXT3S

Sheet 1 of 3  
Doc# HR93XXXT3S-1009945ECO-082606  
Revision B

## ORDERING INFORMATION

## PART IDENTIFIER: HR93XXXT3S

→ (X)=Test Code: A=Group A; B=Group B; C=Group C  
→ (XX)=dB Value (01 – 20 dB see Table 1)

## Engineering Notes:

Single lot and date code available upon request.

Test Times: Group A=2 Weeks

Group B=8 Weeks

Group C=8 Weeks

Standard Lead Time 10 weeks to build product before testing if no stock available.

Assembly DWG: N/A

TABLE 1			
ATTENUATION ACCURACY			
dB	DC - 4 GHz	4 - 8 GHz	8 – 12.4 GHz
1 – 3	±0.3	±0.5	±0.5
4 – 6	±0.4	±0.5	±0.5
7 – 10	±0.5	±0.5	±0.75
11 – 15	±0.75	+0.5, -3.0	+0.5, -3.5
16 – 20	±1.0	+0.5, -4.0	+1.0, -6.0

## SPECIFICATIONS

## 1. ELECTRICAL:

Nominal Impedance: 50 Ω  
 Frequency Range: DC – 12.4 GHz  
 Attenuation Values Available: 1-20 dB in 1 dB Increments  
 Attenuation Accuracy: See Table 1  
 Attenuation Stability: 0.0001 dB/dB/°C  
 VSWR: DC - 4 GHz – 1.25, 4 – 8 GHz – 1.35, 8 – 12.4 GHz – 1.50.  
 Input Power: Max @ 25°C.  
 Average- 2 Watts.  
 Peak- 50 Watts for 10µs Pulse Width @ 1% Duty Cycle.

## 2. ENVIRONMENTAL:

Altitude: Non-Operating: Sea Level to 50,000 Feet.  
 Operating: Sea Level to 50,000 Feet.  
 Temperature Range: Non-Operating: -55°C to +150°C  
 Operating: -55°C to +150°C  
 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 sub-cycle steps 7A, and 7B and Polarization and Load are not applicable.

### 3. MARKING:

Unit Marking: "dB value". Legibility and Permanency per MIL-STD-130.

### 4. QUALITY ASSURANCE:

Verify 100% visual pre-cap inspection performed per TP-8965.

Perform Group A, B, and/or C testing as indicated by the part number per TP-8965.

Test Data Requirements:

Test Data required for customer: See paragraph 5.0 of TP-8965.

Data retention: 24 Months.

Test samples required for customer: See paragraph 5.0 of TP-8965.

### 5. PACKAGING:

Standard Pack per 755W002 (Serialized Waffle Pack).

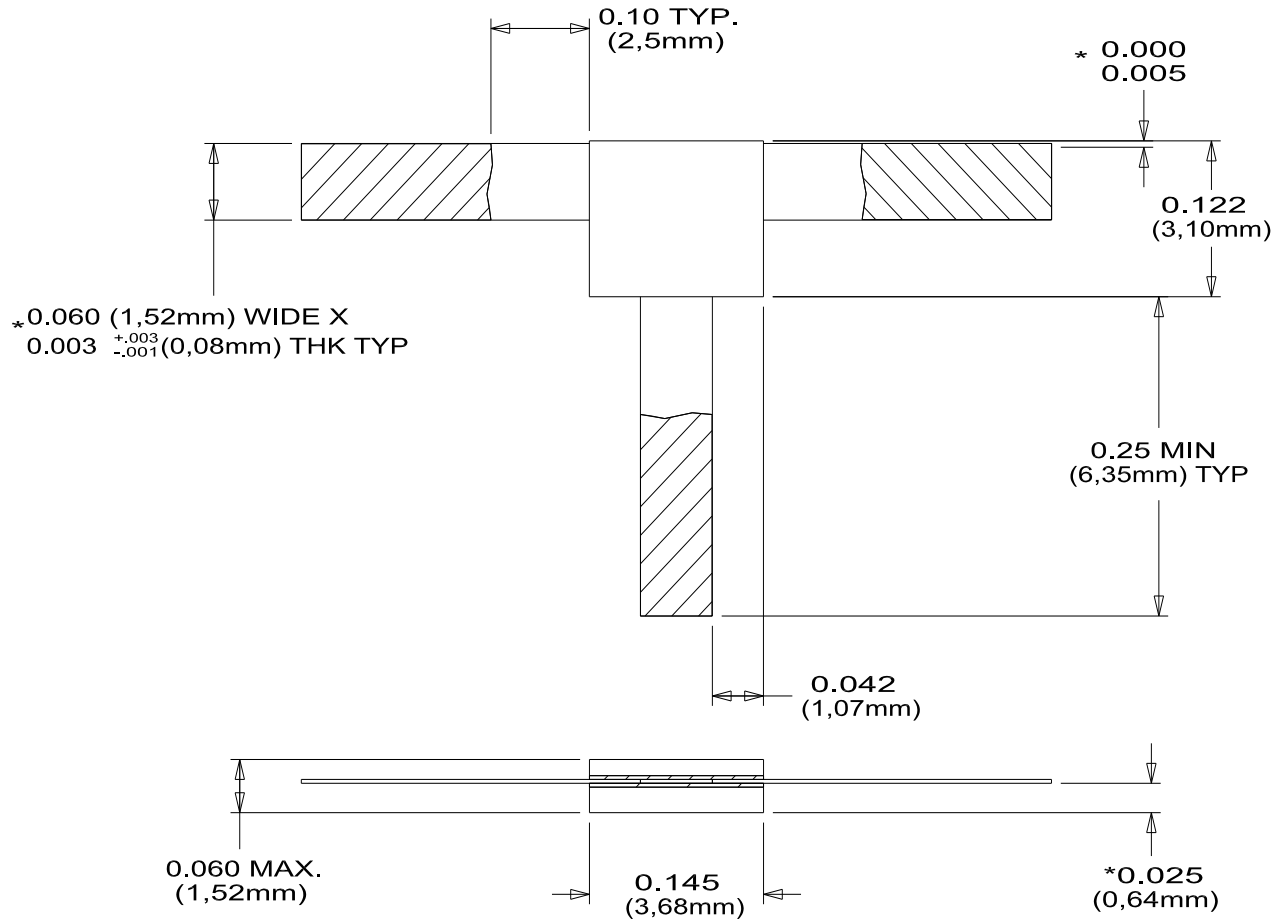
### 6. MECHANICAL:

Substrate and Top Plate Material:	Alumina 96%, MIL - I – 10.
Resistive Element Material:	Tantalum Nitride.
Terminal Material:	Platinum Gold, Nickel Barrier.
Lead Material:	Copper, ASTM B152.
Lead Finish:	Gold, MIL-G-45204, Type II, Class 1. Pre-tinned with Sn62 Solder.
Lead Attachment Material:	Solder Sn96.5 Ag3.5.
Metric Dimensions [mm]:	Provided for reference information only.
Workmanship:	Per MIL-R-55342.
Outline Drawing:	See Sheet 3.

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ALLOW +/-0.010 ON TOP PLATE FOR MISALIGNMENT.

\* DIMENSIONS APPLY BEFORE SOLDER. ALLOW  
0.003/0.015 FOR ALL PRETINNED SURFACES.Unless Otherwise Specified Dimensions are in Inches: Tolerance X.XXX =  $\pm 0.005$  X.XX =  $\pm 0.05$