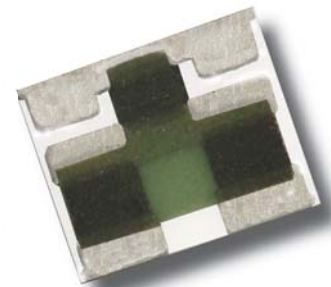


# IMA Series Surface Mount Thick Film Attenuator

**T-Pad Family**

IMA Series T-Pad family surface mount thick film attenuators are compact, high performance devices especially suited to RF and microwave applications. Performance is based on the attenuator operating in a matched continuous 50 ohm system, with proper device mounting and workmanship.



## IMA T-Pad Family Specifications

Standard Impedance:	50Ω Nominal
VSWR (Max):	1.25:1 up to 4 GHz 1.35:1 @ 4 to 8 GHz 1.50:1 @ 8 to 12 GHz
DC Attenuation Stability:	.0001 dB/ dB/ deg. C *
Power Rating:	2W (metalized baseplate maintained below 100° C)
Operating Temperature:	-55 deg. C to 150 deg. C
Frequency Range:	DC - 12.4 GHz
Standard Case Size:	0.122" X 0.145" X 0.028" Max
Architecture:	Thick Film on 96% Alumina (Al <sub>2</sub> O <sub>3</sub> )

For other substrate thicknesses, sizes and power levels, consult the factory.

### Attenuation Accuracy (DC)

Increment (dB)	Accuracy
1 - 3	+/- 0.2dB
4 - 19	+/- 0.3dB
20 - 30	+/- 0.5dB
31 - 40	+/- 1.0dB

**At the circuit level, with proper application of RF principles, these attenuators, and their variations, are capable of operating up to 20 GHz with a manageable VSWR.**

\* Based on TCR and resistor tolerance at DC

### Ordering Information

IMA2314-03D5 (Sample P/N)	
<u>IMAXXXX-XXDX</u>	
Part # (See Reverse)	dB Increment (0 denotes whole value) (5 denotes whole value + .5dB available to 9.5dB)
	dB Whole Value (00-40)

Up to  
**40dB**

To  
**0.2dB**  
Accuracy

**2W**  
Input Power

**ims** International  
Manufacturing  
Services, Inc.

Tel (401) 683-9700  
Fax (401) 683-5571  
e-mail: [ims@ims-resistors.com](mailto:ims@ims-resistors.com)  
<http://www.ims-resistors.com>

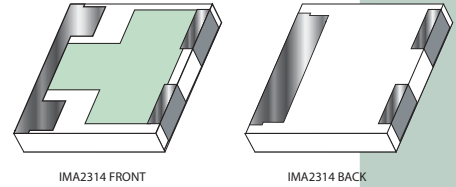
**impossible made simple™**

Ver 1 05/2007 Specifications Subject to Change Without Notice

## Wraparound Styles

### IMA2314

Termination Style: Full Wraparound  
 Termination Materials: Platinum Silver with Solder  
 Attachment: Solder

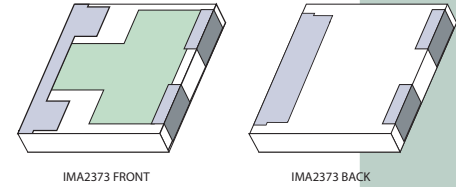


IMA2314 FRONT

IMA2314 BACK

### ✓ IMA2373

Termination Style: Full Wraparound  
 Termination Material: Platinum Silver  
 Attachment: Solder or Epoxy



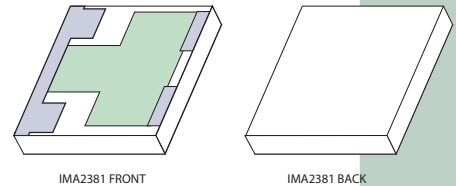
IMA2373 FRONT

IMA2373 BACK

## Single-Sided Styles

### ✓ IMA2381

Termination Style: Single-Sided  
 Termination Material: Platinum Silver  
 Attachment: Solder or Epoxy

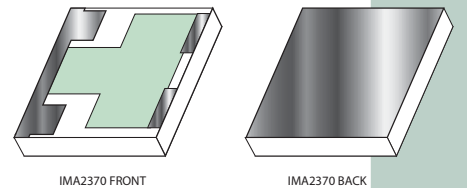


IMA2381 FRONT

IMA2381 BACK

### IMA2370

Termination Style: Single-Sided with Backplane  
 Termination Materials: Platinum Silver with Solder  
 Attachment: Solder



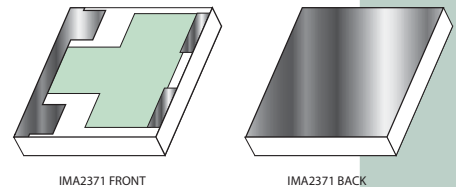
IMA2370 FRONT

IMA2370 BACK

## Single-Wrap Style (SG)

### IMA2371

Termination Style: Single-Wrap to Backplane  
 Termination Materials: Platinum Silver with Solder  
 Attachment: Solder



IMA2371 FRONT

IMA2371 BACK

**S-Parameters, Mag. / Phase, 6dB T-Pad**  
**1.0 To 10GHz - P/N: IMA2314-06D0**  
**mounted to 0.015" thick, 50Ω alumina**

FREQ (GHz)	S11 mag	S11 phase	S21 mag	S21 phase	VSWR
1.00	0.020	-91.995	0.501	-1.799	1.040
2.10	0.041	-92.998	0.501	-3.780	1.086
3.02	0.059	-94.046	0.500	-5.428	1.126
4.12	0.081	-95.361	0.499	-7.400	1.175
5.04	0.098	-96.473	0.497	-9.038	1.218
5.96	0.116	-97.588	0.496	-10.670	1.263
7.06	0.137	-98.926	0.494	-12.617	1.317
7.98	0.154	-100.035	0.492	-14.230	1.365
9.08	0.175	-101.358	0.489	-16.153	1.423
10.0	0.192	-102.451	0.486	-17.744	1.474

✓ Indicates RoHS Compliant Part

⊘ Non-Magnetic

**ims** International Manufacturing Services, Inc.

Tel (401) 683-9700  
 Fax (401) 683-5571  
 e-mail: [ims@ims-resistors.com](mailto:ims@ims-resistors.com)  
<http://www.ims-resistors.com>

**impossible made simple™**