

DIMENSIONS, SPECIFICATIONS, & ACCURACY

PART	LENGTH (in) *	WIDTH (in) *	HEIGHT (Max) (in)
VDX-2010	.200	.100	.020
VDX-2512	.250	.126	.020
VDX-3725	.375	.250	.020
VGX-2010	.200	.100	.035
VGX-2512	.250	.126	.035
VGX-3725	.375	.250	.035

Modelithics simulated part (VDR-3725SG)
* Dimensions are nominal

ITEM	SPECIFICATION
Value Range:	0dB to 30dB
Standard Impedance:	50Ω Nominal
DC Attenuation Stability:	.001 dB/ dB/ °C
Operating Temperature:	-55°C to 150°C
Storage Temperature:	-65°C to 150°C
Thermal Conductivity:	K=170 W/(m • °K)
Architecture:	Thick Film on AℓN
Attachment:	Solder and Epoxy
Electrostatic Sensitivity (ESD):	Class 1
End Of Life:	No E.O.L. Planned
Moisture Level	Level 1

INCREMENT	ACCURACY @ DC
0dB - 4.0dB	+/- 0.2dB
4.5dB - 6.0dB	+/- 0.3dB
6.5dB - 8.5dB	+/- 0.4dB
9.0dB - 11.0dB	+/- 0.5dB
11.5dB - 14.5dB	+/- 0.6dB
15.0dB - 19.0dB	+/- 0.7dB
20.0dB - 27.0dB	+/- 0.8dB
28.0dB - 30.0dB	+/- 0.9dB

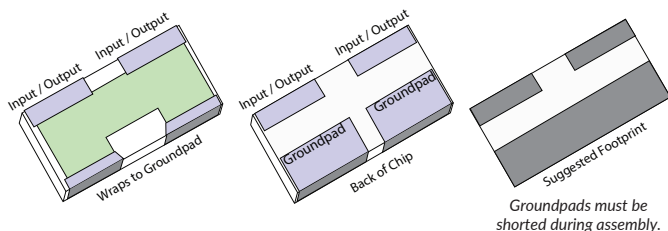
RF PERFORMANCE ESTIMATES - FREQUENCY AT -15dB RETURN LOSS*

	VDX - 15 mil Thick			VGX - 25 mil Thick		
	2010	2512	3725	2010	2512	3725
1dB	10.0 Ghz	2.20 Ghz	1.05 Ghz	8.00 Ghz	5.00 Ghz	1.50 GHz
3dB	6.75 Ghz	2.25 Ghz	1.15 Ghz	6.80 Ghz	3.20 Ghz	1.70 Ghz
6dB	4.25 Ghz	2.30 Ghz	1.25 Ghz	4.80 Ghz	2.80 Ghz	1.70 Ghz
9dB	4.00 Ghz	2.30 Ghz	1.50 Ghz	4.50 Ghz	2.70 Ghz	1.70 Ghz
12dB	3.70 Ghz	2.25 Ghz	1.30 Ghz	4.00 Ghz	2.60 Ghz	1.70 Ghz
15dB	3.70 Ghz	2.25 Ghz	1.30 Ghz	4.00 Ghz	2.65 Ghz	1.75 Ghz
20dB	3.70 Ghz	2.30 Ghz	1.40 Ghz	4.00 Ghz	2.75 Ghz	1.85 Ghz
25dB	3.75 Ghz	2.35 Ghz	1.60 Ghz	4.20 Ghz	2.80 Ghz	2.00 Ghz
30dB	4.00 Ghz	2.50 Ghz	1.70 Ghz	4.25 Ghz	2.90 Ghz	2.10 Ghz

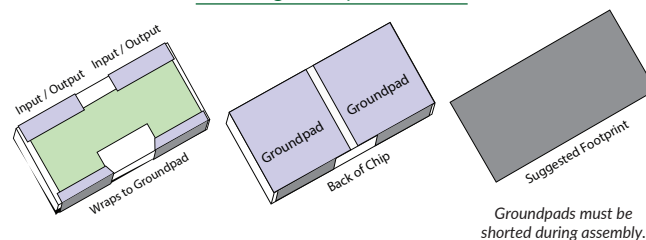
* Simulated data assumes WA on Rogers 4350, 50 ohm matched trace

TERMINAL STYLES

WA - Full Wraparound



SG - Single Wrap to Ground



ORDERING INFORMATION

Prefix for AℓN attenuators	V G	3	-	2010	WA	02D0	
Substrate Thickness	D - 0.015" G - 0.025"						
Termination Material	☒ - 3 PtAg ☒ - 7 Au over PtAu (input) PtAu (ground) ☒ - 8 ULR PtAg ☐ - C PtAg w/ Sn62 Solder ☒ - P PtAg w/ Sn96 Solder ☐ - H ULR PtAg w/ Sn62 Solder ☒ - R ULR PtAg w/ Sn96 Solder						
					Termination Style		
					WA - Wraparound		
					SG - Single Wrap to Ground		
					Part		
					2010 2512 3725		

Modelithics simulated part (VDR-3725SG)

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Vendor Partner

FREE TRIAL

Evaluate IMS parts through Modelithics measurement-based simulation models.
For 90-day FREE trial visit:
www.modelithics.com/mvp/ims

For packaging options please visit our website
www.ims-resistors.com/packaging
RoHS Compliant = ☒
ULR = Ultra Leach Resistant

ULR

HI PWR

RoHS

Sn62

NON-MAG

BONDABLE

Surface Mount Thick Film Chip Attenuator on AℓN

Conductive power rating estimates at each maintained baseplate temperature assume a thermally active application where the component ground is mechanically connected to the system ground or thermal sink to which the heat generated by the part may be dissipated. Depending on the installation and steady state operation of the system these conductive ratings may be met or exceeded and can vary from one application to another based on the applied thermal management profile.

For more information on the method and assumptions used for calculating power ratings please first refer to the Whitepaper "Understanding Attenuator Power Ratings" available at <https://ims-resistors.com/tech-info/white-papers/> and then contact techsupport@ims-resistors.com with any remaining inquiries.

INPUT POWER VS BASEPLATE TEMPERATURE

VDX 15mil THICK

dB	2010			2512			3725		
	50°C	75°C	100°C	50°C	75°C	100°C	50° C	75°C	100°C
1dB	174W	131W	87W	386W	289W	193W	1307W	981W	654W
2dB	98W	73W	49W	216W	162W	108W	733W	550W	366W
3dB	73W	55W	37W	163W	122W	81W	551W	413W	276W
4dB	62W	47W	31W	138W	103W	69W	466W	350W	233W
5dB	56W	42W	28W	125W	94W	62W	423W	317W	212W
6dB	54W	40W	27W	119W	89W	60W	404W	303W	202W
7dB	52W	39W	26W	115W	86W	58W	390W	292W	195W
8dB	52W	39W	26W	115W	86W	57W	389W	292W	194W
9dB	53W	39W	26W	116W	87W	58W	395W	296W	197W
10dB	54W	41W	27W	120W	90W	60W	405W	304W	203W
12dB	59W	44W	30W	108W	81W	54W	408W	306W	204W
15dB	51W	38W	25W	93W	70W	46W	349W	262W	175W
20dB	43W	33W	22W	79W	59W	40W	298W	224W	149W
25dB	40W	30W	20W	72W	54W	36W	273W	205W	136W
30dB	38W	28W	19W	69W	52W	34W	260W	195W	130W

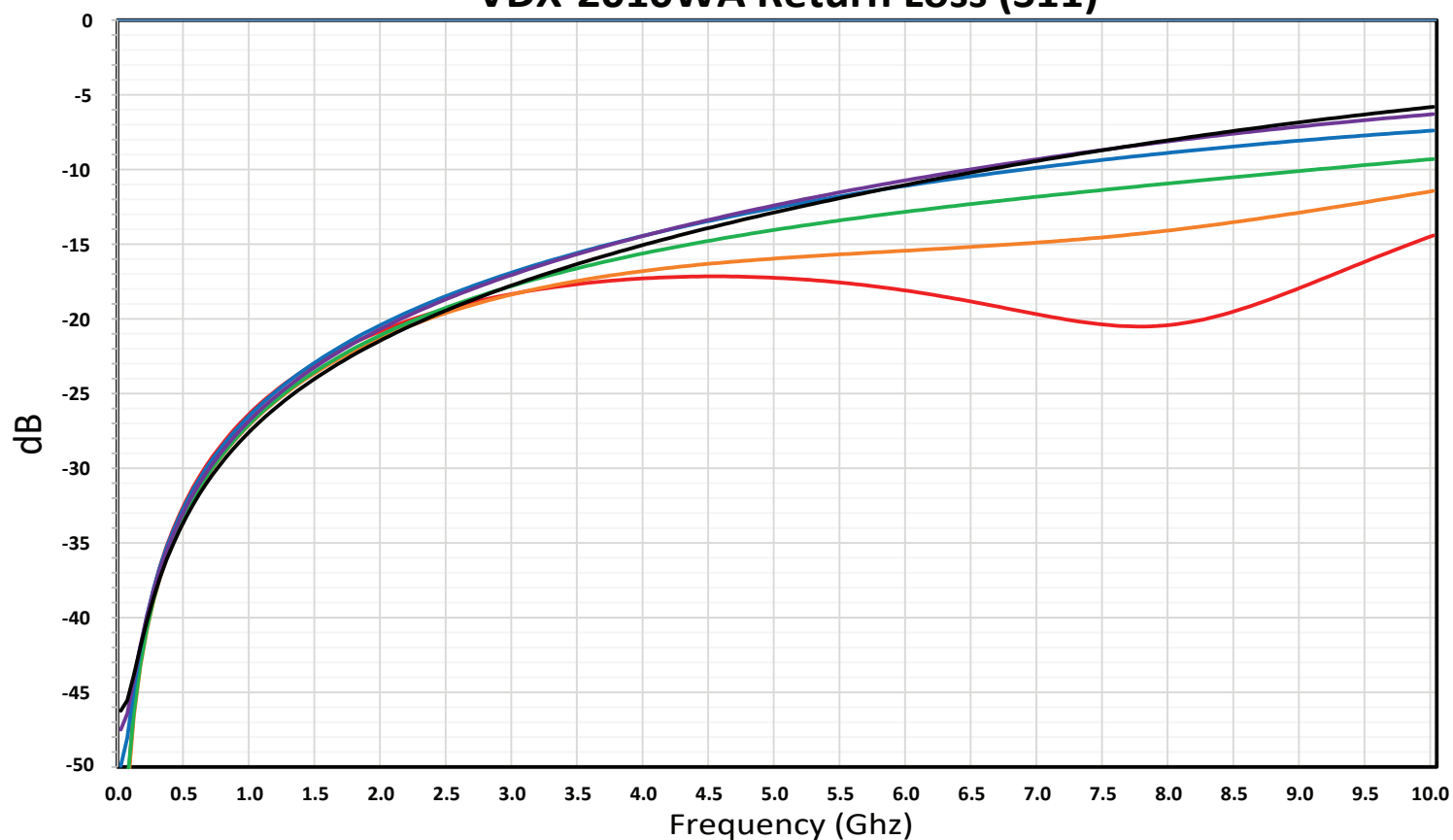
VGX 25mil THICK

dB	2010			2512			3725		
	50°C	75°C	100°C	50°C	75°C	100°C	50° C	75°C	100°C
1dB	105W	78W	52W	232W	174W	116W	784W	588W	392W
2dB	59W	44W	29W	130W	97W	65W	440W	330W	220W
3dB	44W	33W	22W	98W	73W	49W	331W	248W	165W
4dB	37W	28W	19W	83W	62W	41W	280W	210W	140W
5dB	34W	25W	17W	75W	56W	37W	254W	190W	127W
6dB	32W	24W	16W	72W	54W	36W	242W	182W	121W
7dB	31W	23W	16W	69W	52W	35W	234W	175W	117W
8dB	31W	23W	16W	69W	52W	34W	233W	175W	117W
9dB	32W	24W	16W	70W	52W	35W	237W	178W	118W
10dB	32W	24W	16W	72W	54W	36W	243W	182W	122W
12dB	35W	27W	18W	65W	49W	32W	245W	183W	122W
15dB	31W	23W	15W	56W	42W	28W	210W	157W	105W
20dB	26W	20W	13W	48W	36W	24W	179W	134W	89W
25dB	24W	18W	12W	43W	33W	22W	164W	123W	82W
30dB	23W	17W	11W	41W	31W	21W	156W	117W	78W

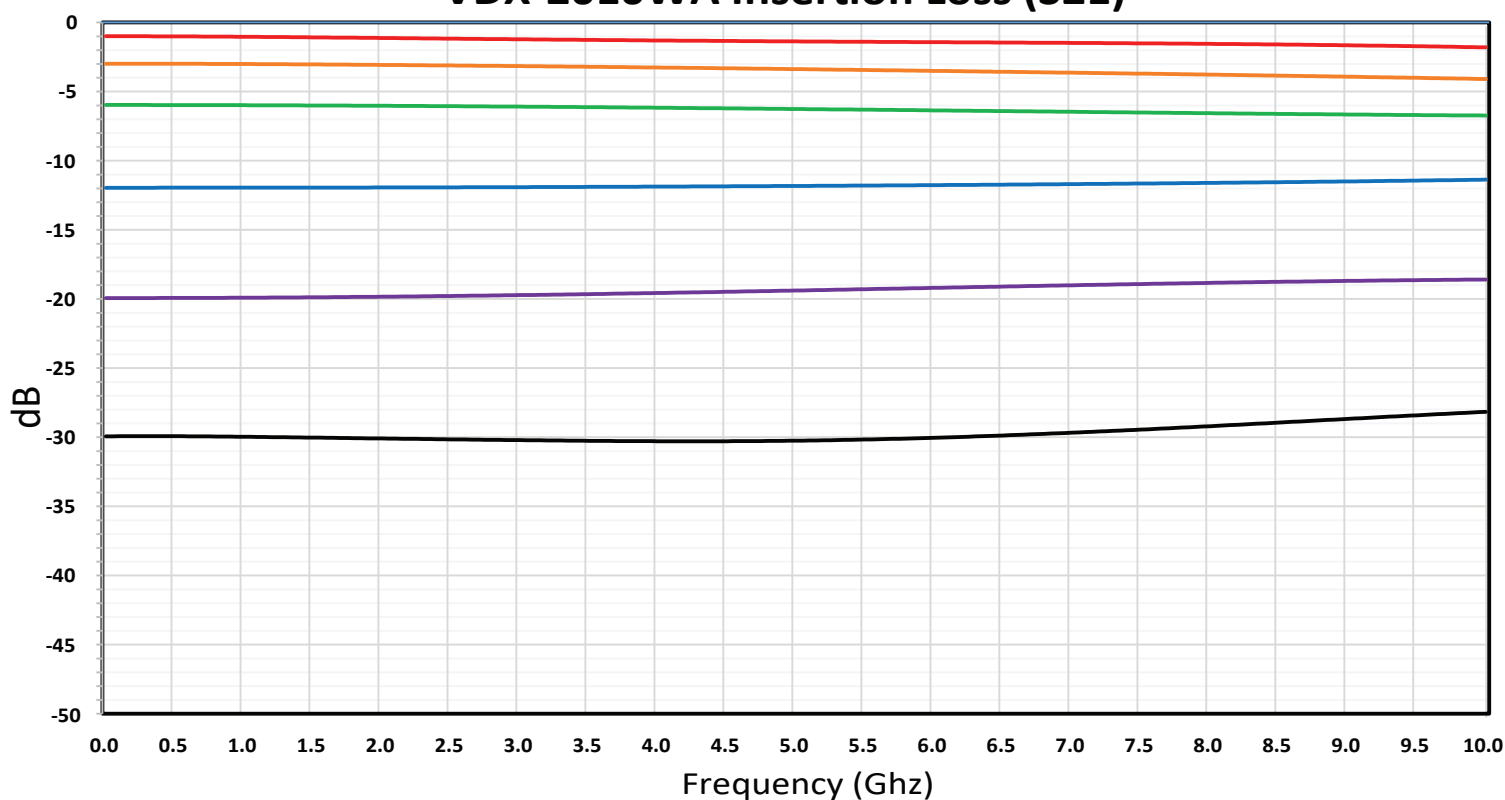
Surface Mount Thick Film Chip Attenuator on AEN

INSERTION AND RETURN LOSS CHARTS

VDX-2010WA Return Loss (S11)



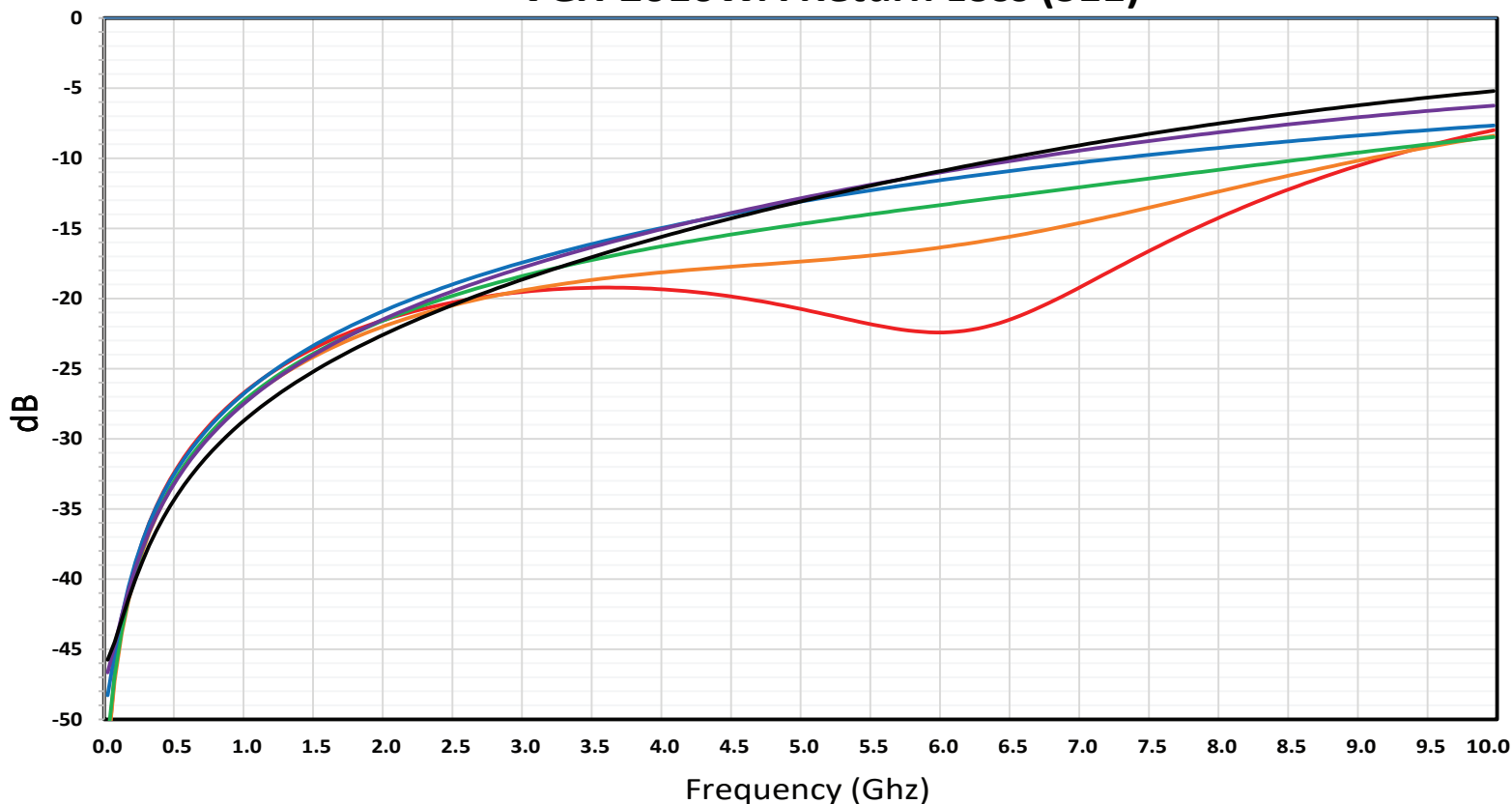
VDX-2010WA Insertion Loss (S21)



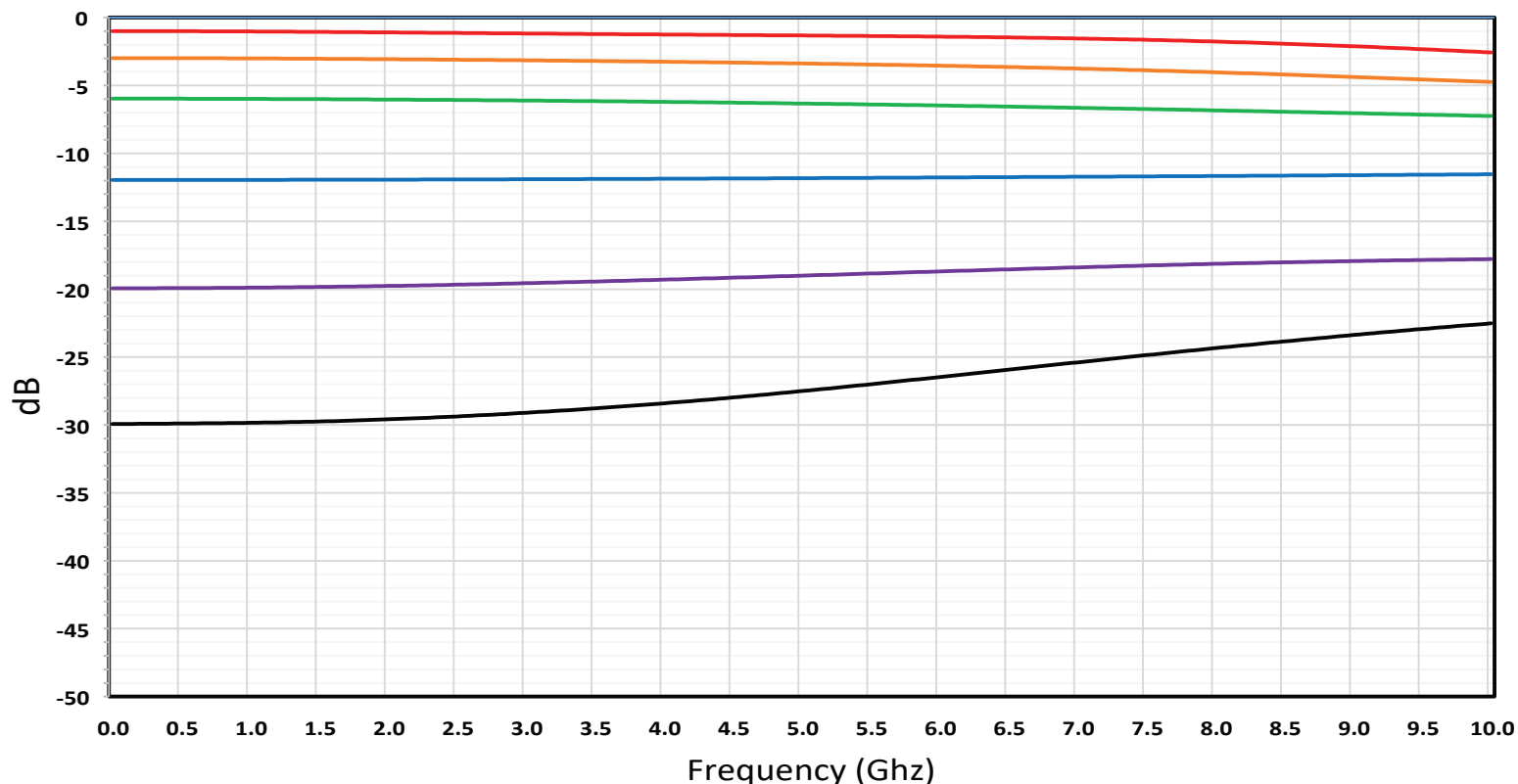
— VDX-2010WA 1dB — VDX-2010WA 3dB — VDX-2010WA 6dB — VDX-2010WA 12dB — VDX-2010WA 20dB — VDX-2010WA 30dB

Surface Mount Thick Film Chip Attenuator on AEN

VGX-2010WA Return Loss (S11)



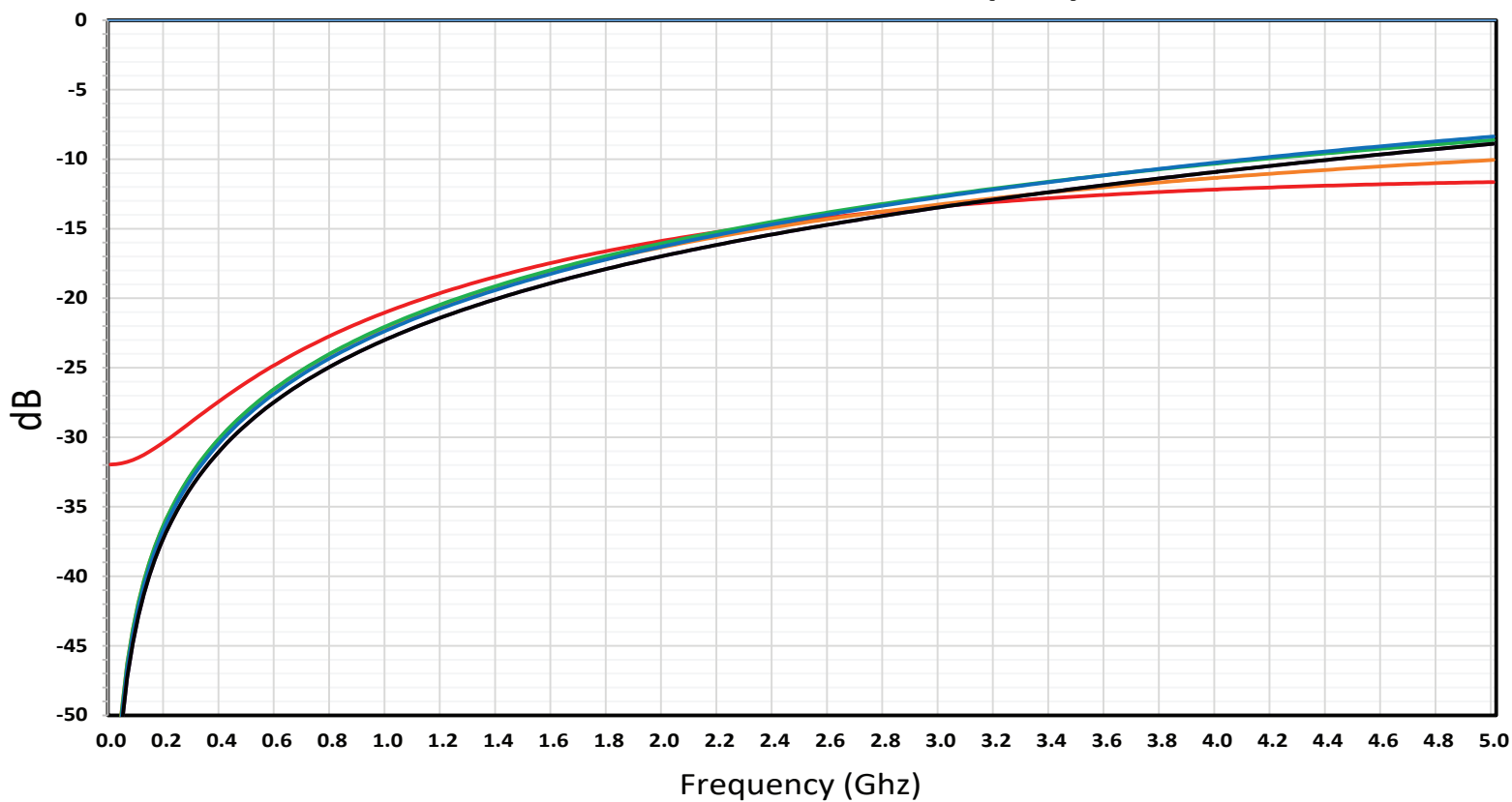
VGX-2010WA Insertion Loss (S21)



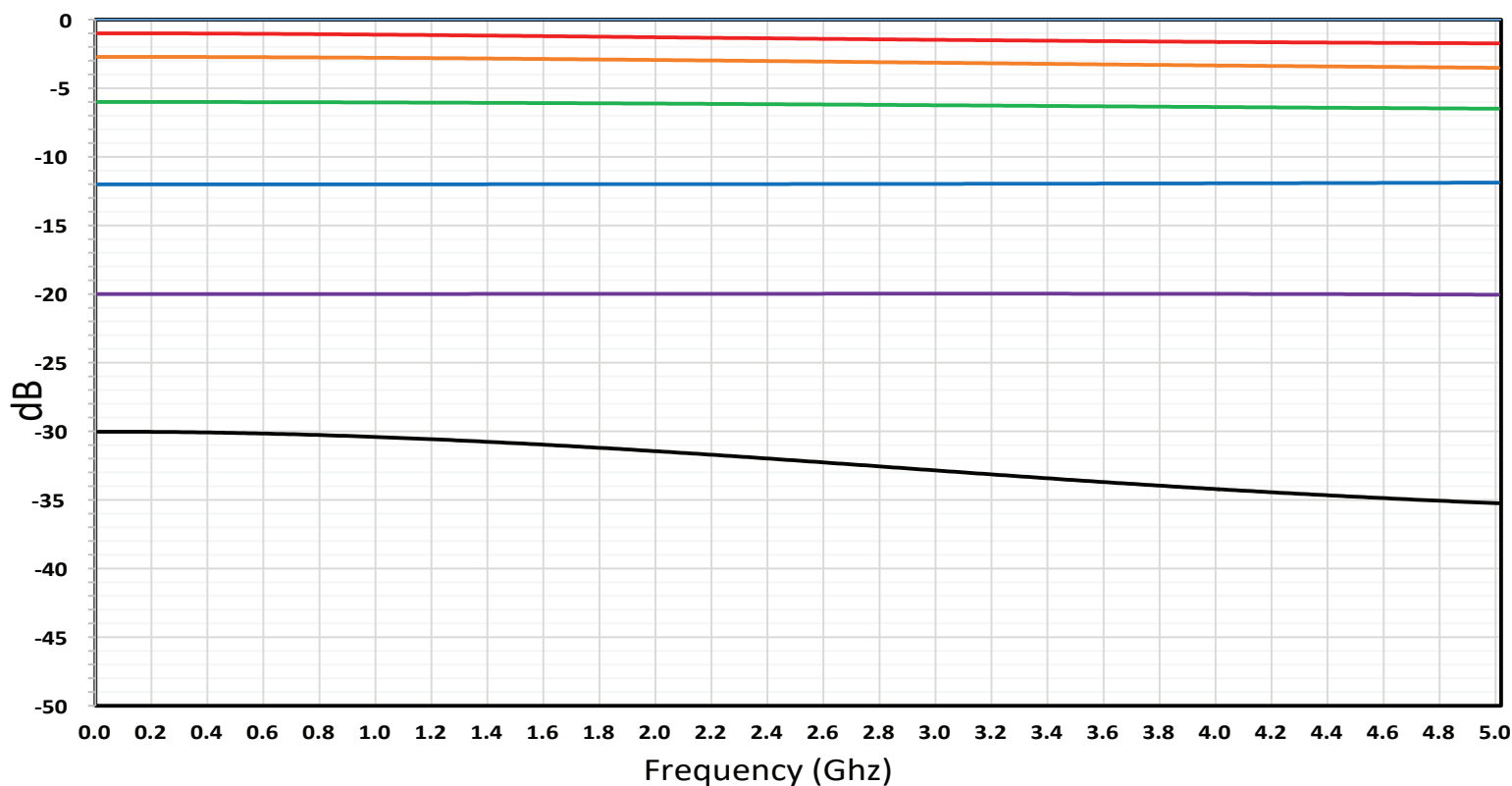
VGX-2010WA 1dB VGX-2010WA 3dB VGX-2010WA 6dB VGX-2010WA 12dB VGX-2010WA 20dB VGX-2010WA 30dB

Surface Mount Thick Film Chip Attenuator on AEN

VDX-2512WA Return Loss (S11)

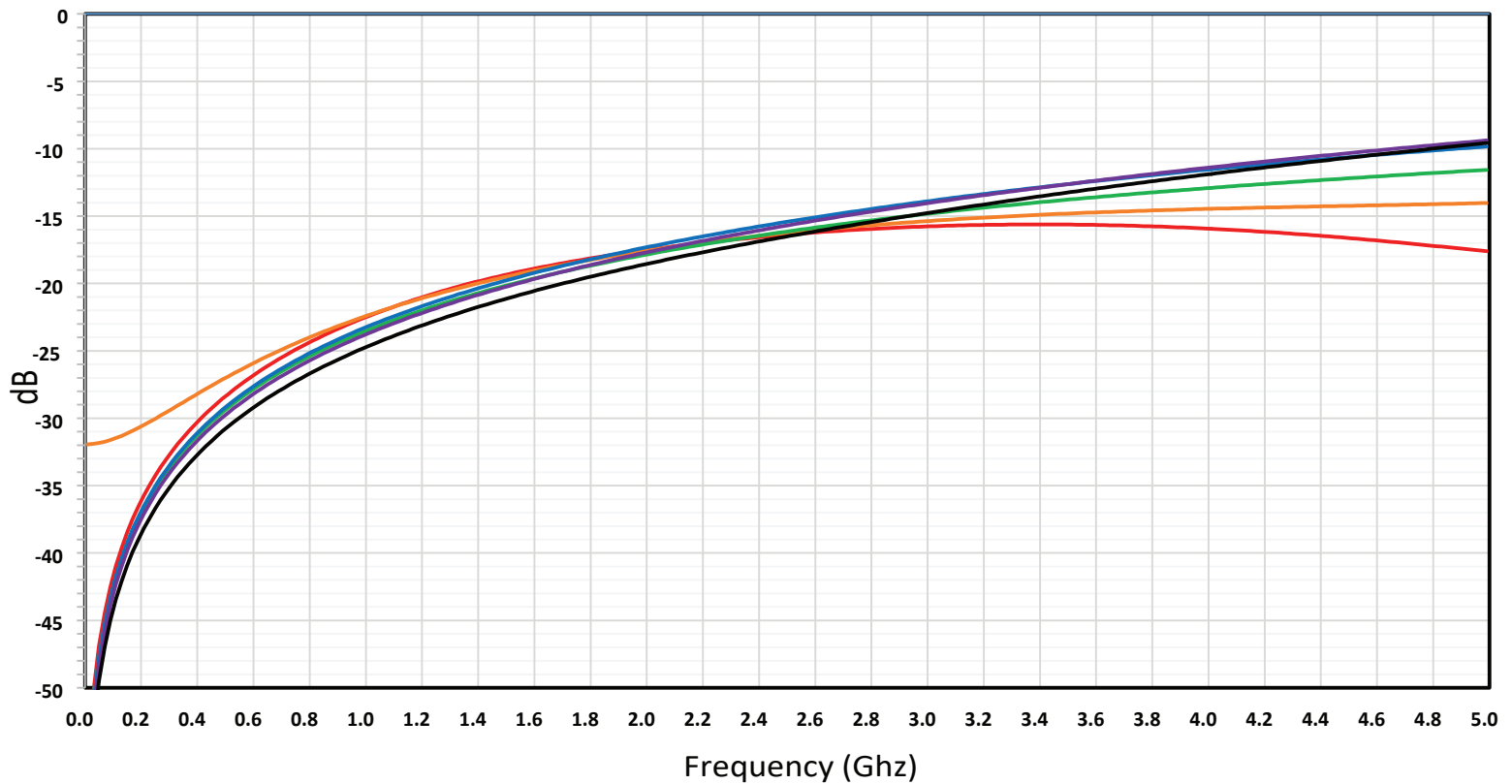


VDX-2512WA Insertion Loss (S21)

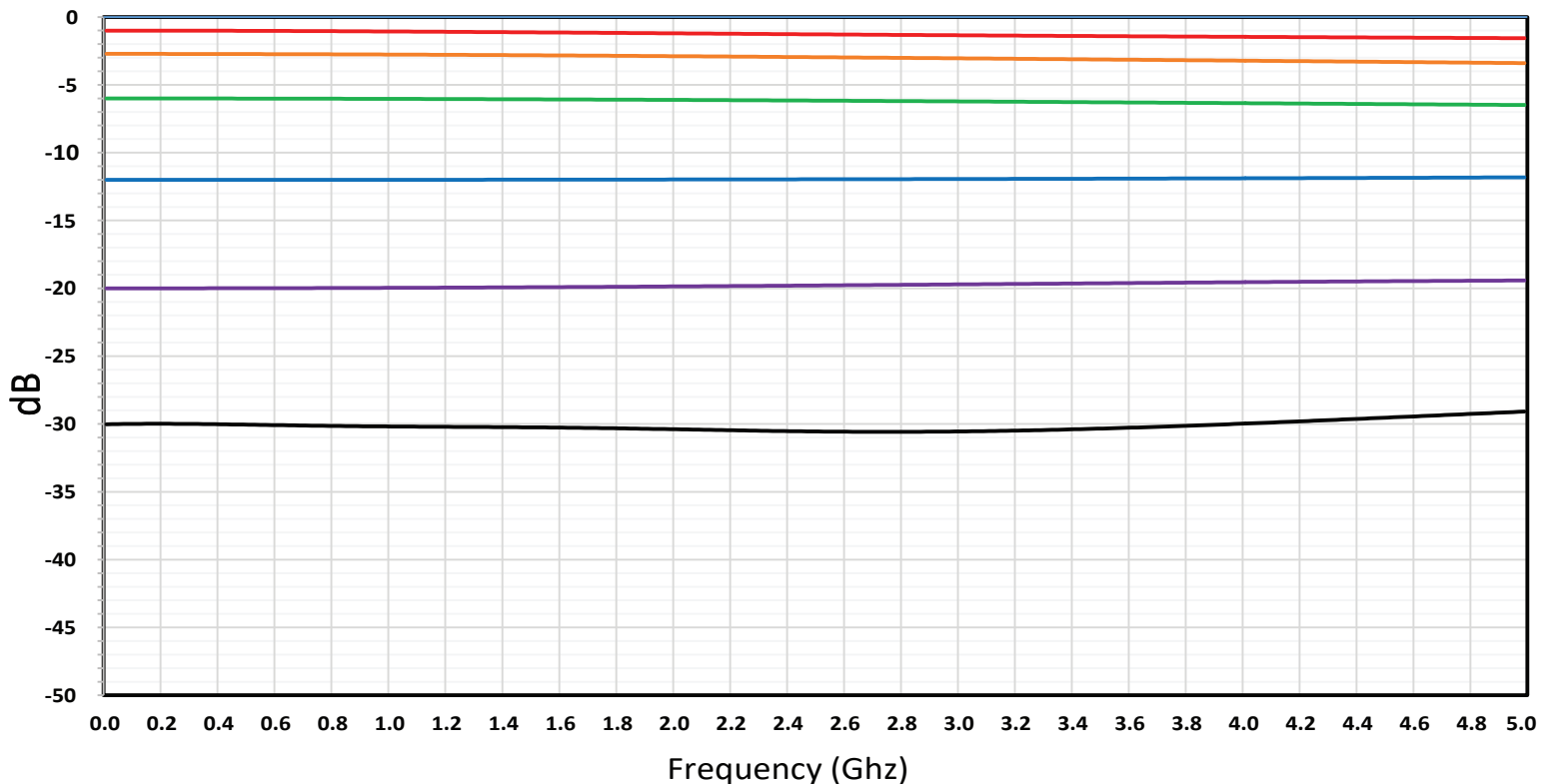


— VDX-2512WA 1dB — VDX-2512WA 3dB — VDX-2512WA 6dB — VDX-2512WA 12dB — VDX-2512WA 20dB — VDX-2512WA 30dB

VGX-2512WA Return Loss (S11)



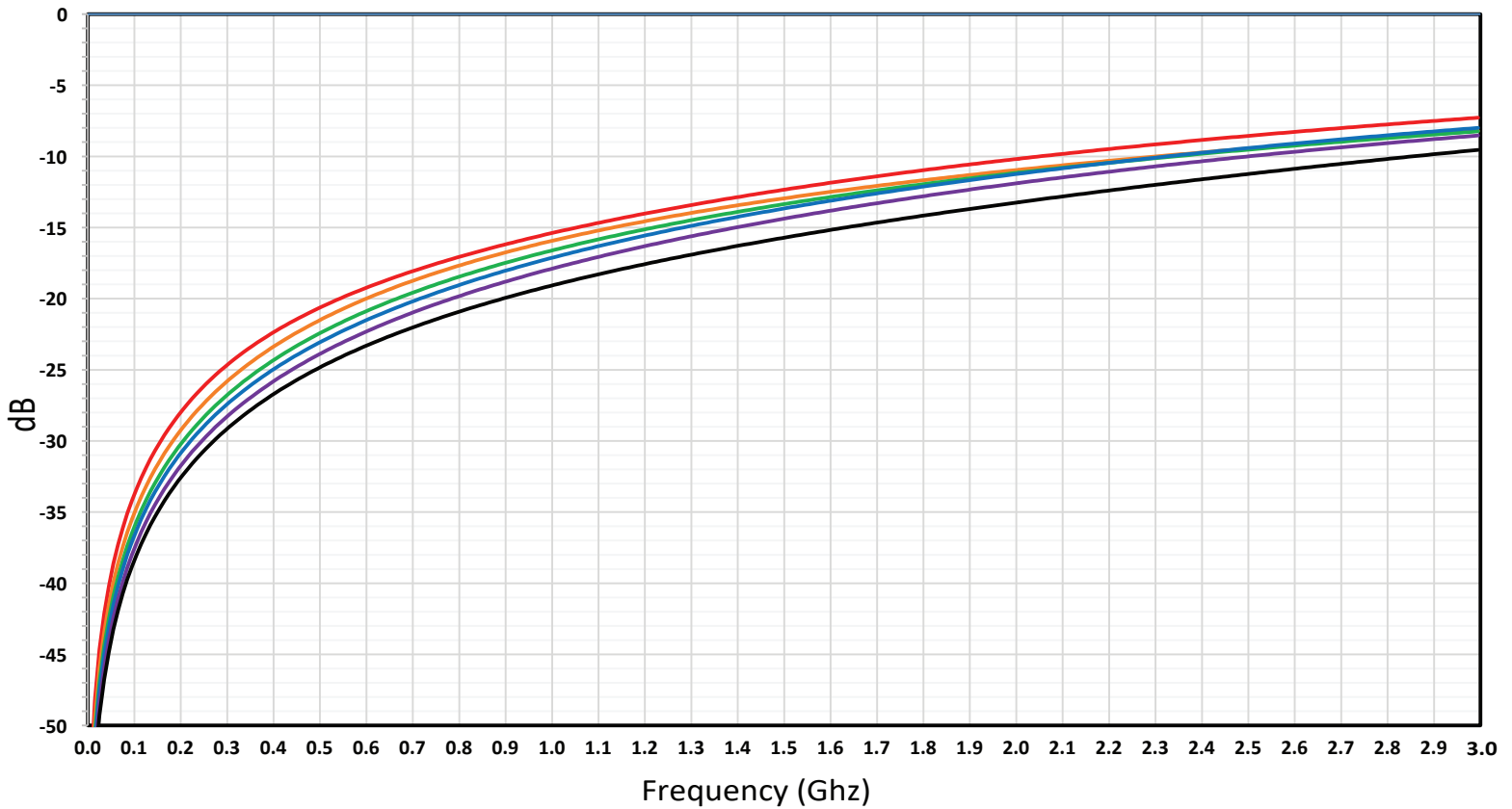
VGX-2512WA Insertion Loss (S21)



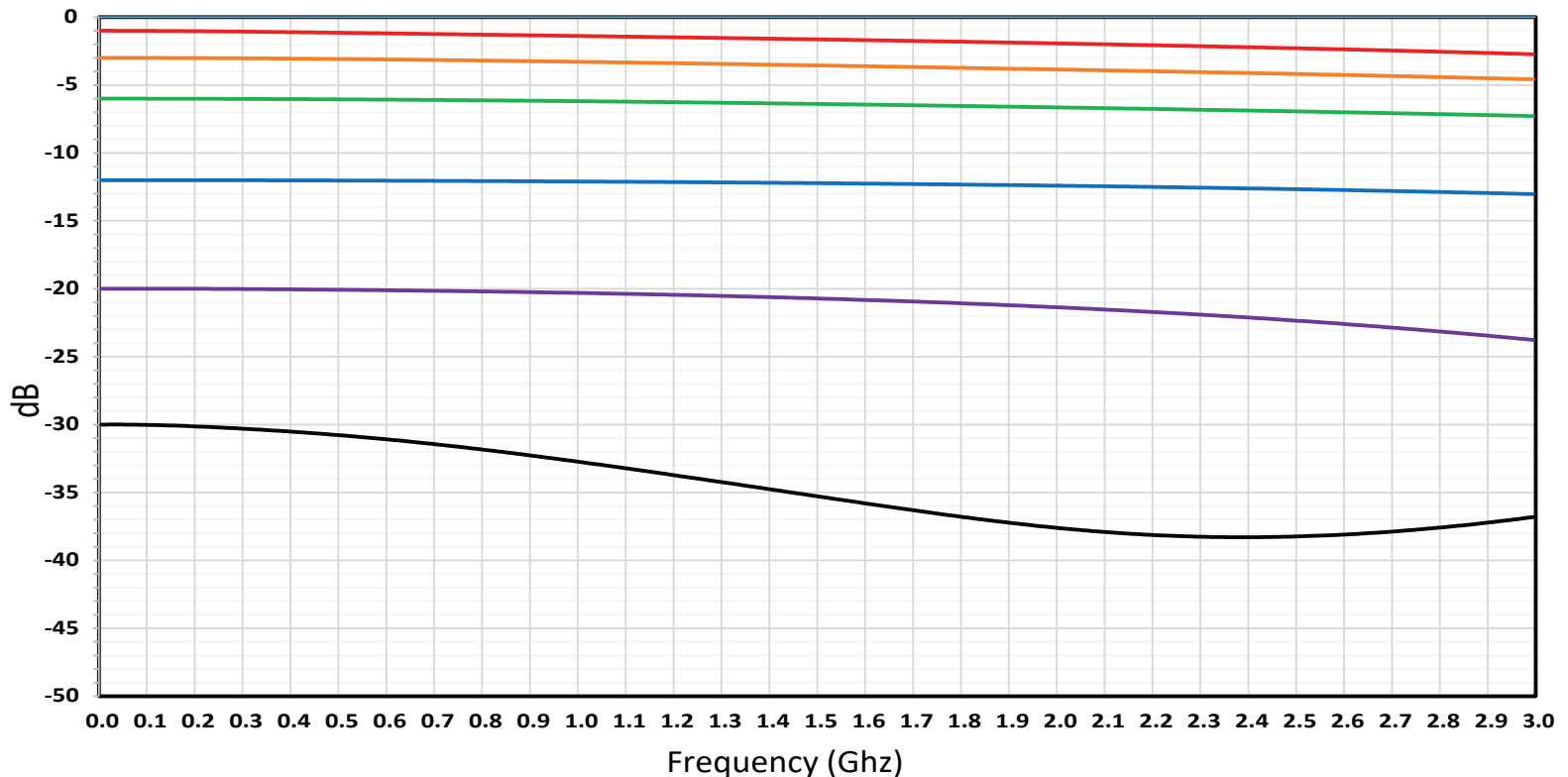
VGX-2512WA 1dB VGX-2512WA 3dB VGX-2512WA 6dB VGX-2512WA 12dB VGX-2512WA 20dB VGX-2512WA 30dB

Surface Mount Thick Film Chip Attenuator on AEN

VDX-3725WA Return Loss (S11)

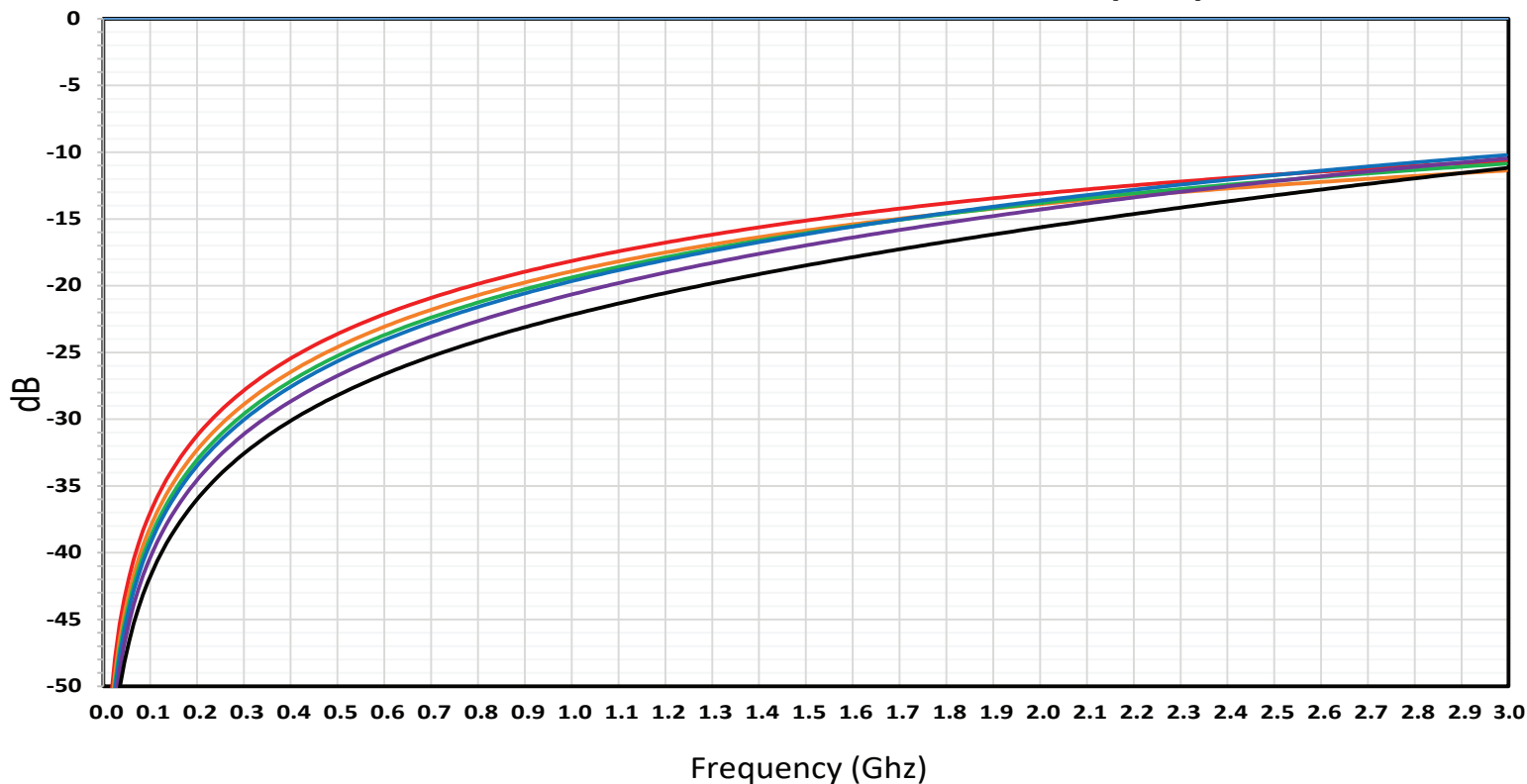


VDX-3725WA Insertion Loss (S21)



— VDX-3725WA 1dB — VDX-3725WA 3dB — VDX-3725WA 6dB — VDX-3725WA 12dB — VDX-3725WA 20dB — VDX-3725WA 30dB

VGX-3725WA Return Loss (S11)



VGX-3725WA Insertion Loss (S21)

