

THICK FILM

ATTENUATORS, DIGITAL

SURFACE MOUNT

GENERAL INFORMATION: The DAS Series of Microwave digital attenuators combines the high frequency performance and reliability of Thick Film with the ruggedness and ease of application of a ceramic package. The Thick Film technology used for all conductors and resistive elements reduces interconnections. The T²L driver circuitry is integrated on the RF substrate for performance and reliability. The ceramic cover is epoxy sealed and will meet the gross leak requirements of MIL-STD-883.

The DAS Series is available with an optional carrier mount (shown on outline). Carrier material is gold-plated Kovar, or silver plated aluminum.

FEATURES:

- Internal T²L Drivers
- Epoxy Seal
- Thick Film
- Accuracy $\pm 1/2$ LSB
- MIL-STD-883 SCREENING

GENERAL SPECIFICATIONS:

FREQUENCY RANGE: 1 GHz to 4 GHz

RF IMPEDANCE: 50 Ohms

DC POWER: 5V $\pm$ 0.5V at 40ma/Bit

LOGIC: T²L

DRIVER: Integrated on RF Substrate

ATTENUATION RANGE: 0 to 63dB

ACCURACY: ± 0.5 LSB (Add $\pm 1\%$ for values greater than 32 dB)

RF POWER: +10dBm Operating

+20dBm Survivability

OPERATING TEMP.: -55°C To +85°C

STORAGE TEMP.: -55°C To +125°C

SWITCHING SPEED: 100 nsec Typ; 125 nsec Max.

PACKAGE: Epoxy Seal per MIL-STD-883, (Gross Leak)

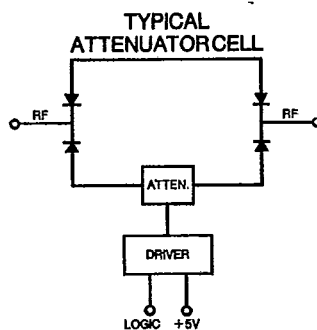
PACKAGE MATERIAL: Ceramic.

CARRIER OPTIONS: Kovar, Option 'CK'

Aluminum, Option 'CA'

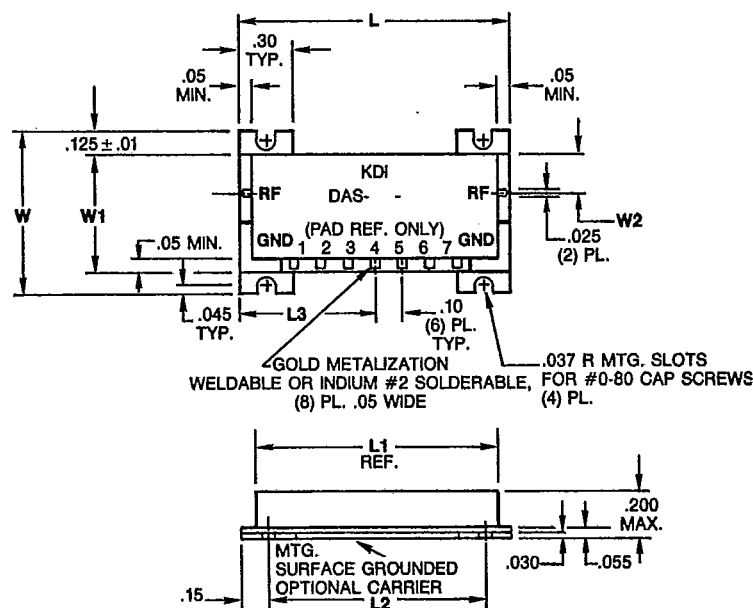
LOGIC & RF CONNECTIONS

Part. No.		RF	1	2	3	4	5	6	7
DAS-124	-05	RF	+5V	4 dB	.5 dB	GND	1 dB	2 dB	+5V
	-1	RF	+5V	8 dB	1 dB	GND	2 dB	4 dB	+5V
	-2	RF	+5V	16 dB	2 dB	GND	4 dB	8 dB	+5V
DAS 125	-05	RF	8 dB	4 dB	2 dB	1 dB	.5 dB	N/C	+5V
	-1	RF	16 dB	8 dB	4 dB	2 dB	1 dB	N/C	+5V
	-2	RF	16 dB	8 dB	4 dB	2 dB	N/C	32 dB	+5V
DAS 226	-05	RF	8 dB	4 dB	2 dB	1 dB	.5 dB	16 dB	+5V
	-1	RF	16 dB	8 dB	4 dB	2 dB	1 dB	32 dB	+5V



TYPICAL MODEL NO.

<u>DAS</u>	-	<u>124</u>	-	<u>05</u>	-	<u>(X)</u>
Basic Series		Freq. & # Bits		LSB		Optional Carrier (CA, CK)



ELECTRICAL PERFORMANCE

Part No.	Frequency GHz	# of Bits dB	LSB dB	MSB Max. dB	Ins. Loss dB Max.	VSWR Max.	Power Supply Ma Max.	Phase Degrees Typical	L ±.01	L1 (REF)	L2 ±.01	L3 ±.02	W ±.02	W1 ±.01	W2 ±.01
DAS-124.**	1-4	4	0.5	16	3.2	1.5:1	160	10°	1.48	1.32	1.18	.75	.88	.63	.193
DAS-125.**	1-2	5	0.5	32	4.0	1.5:1	200	10°	2.05	1.87	1.75	1.04	1.00	.75	.25
DAS-225.**	2-4	5	0.5	32	4.0	1.5:1	200	10°	2.05	1.87	1.75	1.04	1.00	.75	.25
DAS-126.**	1-2	6	0.5	32	4.8	1.5:1	240	10°	2.05	1.87	1.75	1.04	1.00	.75	.25
DAS-226.**	2-4	6	0.5	32	4.8	1.5:1	240	10°	2.05	1.87	1.75	1.04	1.00	.75	.25

**Dash number indicates LSB value—05 = 0.5dB etc.

DIMENSIONS