

## LOGARITHMIC AMPLIFIERS SD & SSD SERIES



**Centre Frequency 10 to 750 MHz**

**Dynamic Range to 80 dB**

**Bandwidth to 300 MHz**

**Linearity to 0.5 dB**

The Pascall SD and SSD Logarithmic Amplifiers employ a discrete component design using modern surface mount technology. These designs provide both a detected video output voltage logarithmically proportional to the IF input power and a limited IF output.

Three basic variants are available. The narrow band SDA / SSDA, SDB / SSDB ranges and the broadband SDBB / SSBB range.

The SDA series have a nominal linearity of +/- 0.5 dB and the SDB series +/- 1.0 dB. The broadband range has nominal linearity of +/- 1.0 dB.

Linearity is defined as the deviation from the best fit straight line to the measured data.

Test results are supplied with every amplifier detailing linearity at + 25 °C, pulse performance, limited IF output (where specified) and power consumption.

<b>Linearity: (max. deviations)</b>	SDA / SSDA	SDB / SSDB
<b>Centre Frequency at +25 °C</b>	± 0.5 dB	± 1.0 dB
<b>over 0 to +60 °C</b>	± 0.8 dB	± 1.5 dB
<b>over -45 to +85 °C</b>	± 1.5 dB	± 2.0 dB
<b>Log Slope: (max variation with temperature)</b>	25 mV/dB nom.	25 mV/dB nom.
<b>0 to +60 °C</b>	± 2 %	± 3 %
<b>-45 to +85 °C</b>	± 2.5 %	± 5 %
<b>Video output DC coupled into 100 Ω</b>		
<b>Output Range</b>	2.0 V nom.	2.0 V nom.
<b>Offset Adjust</b>	± 100 mV	± 100 mV
<b>Max. Offset change with Temperature</b>		
<b>0 to +60 °C</b>	± 12 mV	± 20 mV
<b>-45 to +85 °C</b>	± 30 mV	± 40 mV
<b>Limited IF Output (into 50 Ω)</b>	0dBm ± 2 dB	0dBm ± 2 dB
<b>Input V.S.W.R. (max)</b>	1.5 :1	1.5 :1
<b>Power Supply ± 12 v or ± 15 v</b>	+ve 60 mA -ve 110 mA	+ve 60 mA -ve 110 mA (160 mA SSDBB)
<b>Weight (max)</b>	85g	85g
<b>Dimensions</b>	SD Series SSD Series	96.1 x 38.1 x 11.7 89.7 x 38.1 x 11.7

**Standard Range**

Model Nos. SSDA SSDB SSDBB	Model Nos. SDA SDB SDBB	Centre Freq. MHz	Band Width MHz	Dynamic Range dB	Rise-Time nsec	Fall Time nsec
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**Standard SD & SSD**

SSDB-1002	SDB-1002	10	2	80	500	1000
SSDB-2005	SDB-2005	20	5	80	200	500
SSDB-3010	SDB-3010	30	10	80	100	250
SSDB-6010	SDB-6010	60	10	80	90	230
SSDB-6020	SDB-6020	60	20	80	45	120
SSDB-7010	SDB-7010	70	10	80	90	230
SSDB-7020	SDB-7020	70	20	80	45	120
SSDB-7040	SDB-7040	70	40	80	30	90
SSDB-12020	SDB-12020	120	20	80	45	120
SSDB-12040	SDB-12040	120	40	80	30	60
SSDB-16040	SDB-16040	160	40	80	30	60
SSDB-16080	SDB-16080	160	80	80	20	40
SSDB-20050	SDB-20050	200	50	80	30	60
SSDB-50050	SDB-50050	500	50	70	15	25

**Broadband SSDBB & SDBB**

SSDBB-150100	SDBB-150100	150	100	70	20	35
SSDBB-300200	SDBB-300200	300	200	65	15	35
SSDBB-375250	SDBB-375250	375	250	65	15	35
SSDBB-450300	SDBB-450300	450	300	65	15	35
SSDBB-475150	SDBB-475150	475	150	65	15	35

**Options**

- Limited IF Output
- Log. Slope in range 15 to 40 mV/dB
- ± 12 V on ± 15 V supply voltage
- Extended temperature range -55 to +100 °C
- Matched pairs
- Centre Frequencies in range 10 to 750 MHz
- Constant phase versions (LL series)
- Tapped mounting holes
- SMA, SMB or SMC connections.