

# Electronic Line Stretcher

## ELS-210

**50Ω 360° Voltage Variable 80 to 210 MHz**

### Maximum Ratings

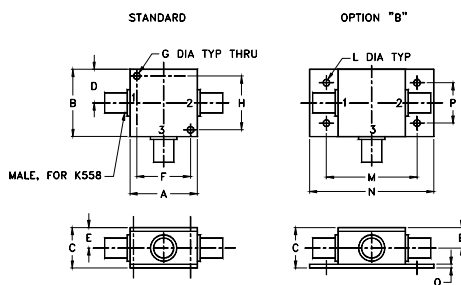
Operating Temperature	0°C to 50°C
Storage Temperature	-40°C to 100°C
RF Input Power	13 dBm
Control Voltage	0.5V to 30V

### Coaxial Connections

RF IN	1
MONITOR OUT*	2
CONTROL	3

\*monitor out port should be connected to a 50-ohm load

### Outline Drawing



### Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.00	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	70.0

### Features

- over 360° phase shift of the reflected signal
- normalized and stable magnitude of the reflected signal
- voltage controlled for automated applications
- protected under US Patent No. 6,479,977



CASE STYLE: K18

### Applications

- automated load-pull measurement of oscillators<sup>1</sup>

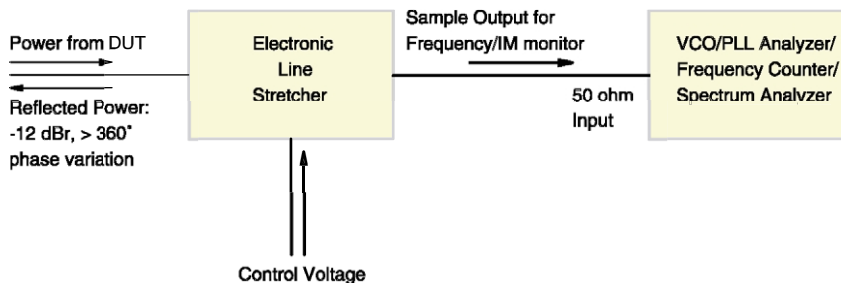
Connectors	Model	Price	Qty.
SMA	ELS-210-S	\$149.95	(1-9)

### Electrical Specifications

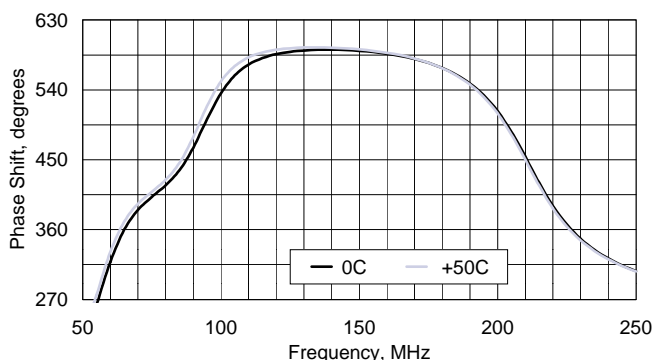
FREQUENCY RANGE (MHz)	INPUT POWER (dBm)	PHASE RANGE (Degrees)	RETURN LOSS (dB)	CONTROL VOLTAGE (V)
$f_L$ - $f_U$	Max.	Min.	Typ.	
80-210	10	360	10-12	0.5-25

<sup>1</sup> See Application Note AN-45-002 on our web site.

### Application Block Diagram



Maximum Phase Shift vs. Frequency  
at temperature extremes  
@ Pin = +7 dBm



Return Loss vs. Frequency  
at temperature extremes  
@ Pin = +7 dBm

