

# Digital Step Attenuators

B-03-15  
T-74-13-01

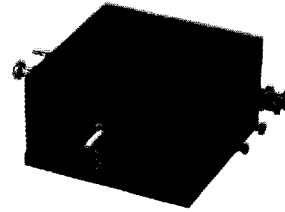
SCIENTIFIC/ MINI-CIRCUITS

with TTL Control Inputs

0.5 to 20 dB steps, up to 35 dB attenuation  
10 MHz to 1 GHz



TOAT



ZFAT

MODEL NO.	FREQUENCY RANGE (MHz)		PRIMARY ATTN. STEPS (dB)			ATTENUATION (dB) LOGIC STATE		VSWR			PRICE \$ 1-9	DISTRIBUTOR		
	f <sub>i</sub>	f <sub>u</sub>	#1	#2	#3	@ TTL CONTROL PORT		L	M	U		FACTORY	LOCAL	
TOAT	10	1000	0.5±0.18	1±0.25	2±0.25	3.5	4.0	1.6	1.4	1.5	59.95	●	●	
case QQ96	TOAT-124	10	1000	1±0.25	2±0.25	4±0.3	7	4.0	1.6	1.4	1.5	59.95	●	●
	TOAT-3610	10	1000	3±0.3	6±0.4	10±0.4	19	4.0	1.6	1.4	1.5	59.95	●	●
	TOAT-51020	10	1000	5±0.4	10±0.4	20±0.5	35	4.0	1.6	1.4	1.5	59.95	●	●
	TOAT-4816	10	1000	4±0.4	8±0.4	16±0.5	28	4.0	1.6	1.4	1.5	59.95	●	●
ZFAT	ZFAT-R512	10	1000	0.5±0.18	1±0.25	2±0.25	3.5	4.0	1.6	1.4	1.5	89.95	●	●
case SSS-173	ZFAT-124	10	1000	1±0.25	2±0.25	4±0.3	7	4.0	1.6	1.4	1.5	89.95	●	●
	ZFAT-3610	10	1000	3±0.3	6±0.4	10±0.4	19	4.0	1.6	1.4	1.5	89.95	●	●
	ZFAT-51020	10	1000	5±0.4	10±0.4	20±0.5	35	4.0	1.6	1.4	1.5	89.95	●	●
	ZFAT-4816	10	1000	4±0.4	8±0.4	16±0.5	28	4.0	1.6	1.4	1.5	89.95	●	●

L = 10 to 100 MHz

M = 100 to 500 MHz

U = 500 to 1000 MHz

**Additional Specifications**

- DC Voltage: +5V
- DC Current: 10 mA MAX.
- Rise Time (10% TO 90%): 6 μ sec. max
- Delay Time (50% TTL TO 90% RF): 6 μ sec. max.
- TTL Input High Threshold 2V MIN.
- TTL Input Low Threshold 0.8V max.
- TTL Toggle Rate: 100 KHz TYP.
- 1 dB Compression: 0 dBm

**Max. Ratings:**

- Input Power: 15 dBm
- DC Voltage: 5.5V max.
- TTL PORT: 5.5V max.
- Operating Temperature: -55° TO 100°C
- Storage Temperature: -55° TO 125°C

**Logic Function:**

- TTL High Activates Associated In-line Attenuation
- TTL Low Bypasses this Attenuation

**NOTES:**

- Step accuracy is specified for basic steps. For combination of steps, accuracy is additive.
- Thru loss is minimum insertion loss with all attenuation elements bypassed (TTL control state 000).
- Prices and specifications subject to change without notice.

**pin connections**

PIN	FUNCTION
1	TTL CONTROL #3
2	TTL CONTROL #1
3	TTL CONTROL #2
4	RF IN
11	RF OUT
12	+5V DC
5,6,7,8,9,10	CASE GROUND

**features**

- wide frequency band, 10-1000 MHz
- excellent step accuracy, 0.2 dB typ.
- excellent VSWR, 1.3 typ.
- low DC current, 6 mA typ.
- operates over -55° to 100°C
- small case, 0.6" dia., TO-8

