

Transition Time Converters (TTC)



◆ Features:

- Designed Specifically for High Speed Digital Networks utilizing modified Bessel Filter Function.
- Covers the 10 MHz to 20 GHz Frequency Range
- Minimum Ringing / Overshoot
- Minimizes Inter-Symbol Interference
- Broad Band VSWR Match
- Supports Sonnet OC-1 to OC-192, SDH STM-0 to STM 64, Fiber Channel and Gigabit Ethernet

◆ Specifications:

Frequency (MHz)	VSWR In / Out	Rise Time	Impedance (Ohms)	Rejection	Temperature
10 - 20,000	1.5:1 DC to 3 X f_c	0.35 / f_c Typical	50	2 dB X $(f / f_c)^2$	0 to +50 °C

◆ Standard Part Numbers:

K&L Part Number	Transition Time (TT) (10% - 90%)	Bit Rate	K&L Part Number	Transition Time (TT) (10% - 90%)	Bit Rate
TTC-39/9NS-O/OP	9 ns	~ 52 MB/s	TTC-2690/130PS-O/OP	130 ps	~ 3590 MB/s
TTC-117/3NS-O/OP	3 ns	~ 156 MB/s	TTC-3500/100PS-O/OP	100 ps	~ 4666 MB/s
TTC-468/750PS-O/OP	750 ps	~ 624 MB/s	TTC-5385/65PS-O/OP	65 ps	~ 7180 MB/s
TTC-780/450PS-O/OP	450 ps	~ 1040 MB/s	TTC-5833/60PS-O/OP	60 ps	~ 7777 MB/s
TTC-940/372PS-O/OP	372 ps	~ 1250 MB/s	TTC-7488/47PS-O/OP	47 ps	~ 9984 MB/s
TTC-1872/187PS-O/OP	187 ps	~ 2496 MB/s	TTC-10000/35PS-K/KP	35 ps	~ 13330 MB/s

◆ Rejection:

Can be estimated using the formula above.

Example:

3 dB cut-off frequency = 100 MHz
Rejection Frequency of Interest @ 400 MHz

$$= 2 \text{ dB} \times \left(\frac{\text{Reject Frequency of Interest}}{3 \text{ dB cut-off frequency}} \right)^2$$

$$= 2 \text{ dB} \times \left(\frac{400}{100} \right)^2$$

$$= 32 \text{ dB}$$

◆ To Order:

TTC - 2250 / TTPS - O / OP
1 2 3 4 5 6

Code

- 1
- 2
- 3
- 4
- 5
- 6

Description

- Time Domain Lowpass
- 3 dB Cutoff Frequency in MHz
- Transition Time
- NS = Nanoseconds, PS = Picoseconds
- Input Connector Type
- Output Connector Type

◆ Connectors:

Connector	Code
SMA Female	O
SMA Male	OP
2.92 mm Female	K
2.92 mm Male	KP

