

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 Typical, 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
TTC-16600/21PS-Q/QP-ROHS	21 ps	22133 MB/s
TTC-10606/33PS-Q/QP-ROHS	33 ps	14141 MB/s
TTC-10606/33PS-QP/K-ROHS	33 ps	14141 MB/s
TTC-5833/60PS-O/OP-ROHS	60 ps	7777 MB/s
TTC-3500/100PS-O/OP-ROHS	100 ps	4664 MB/s
TTC-2690/130PS-O/OP-ROHS	130 ps	3587 MB/s
TTC-2333/150PS-O/OP-ROHS	150 ps	3111 MB/s

◆ Rejection:

Can be estimated using the formula above.

Example:

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

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

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

$$= 32 \text{ dB}$$

◆ To Order:

TTC - 2250 / TTPS - O / OP - ROHS
1 2 3 4 5 6 7

Code

- | | |
|---|------------------------------------|
| 1 | Time Domain Lowpass |
| 2 | 3 dB Cutoff Frequency in MHz |
| 3 | Transition Time |
| 4 | NS = Nanoseconds, PS = Picoseconds |
| 5 | Input Connector Type |
| 6 | Output Connector Type |
| 7 | ROHS Compliant Option |

◆ Connectors:

Connector	Code
SMA Female	O
SMA Male	OP
2.4 mm Female	Q
2.4 mm Male	QP
2.92 mm Female	K