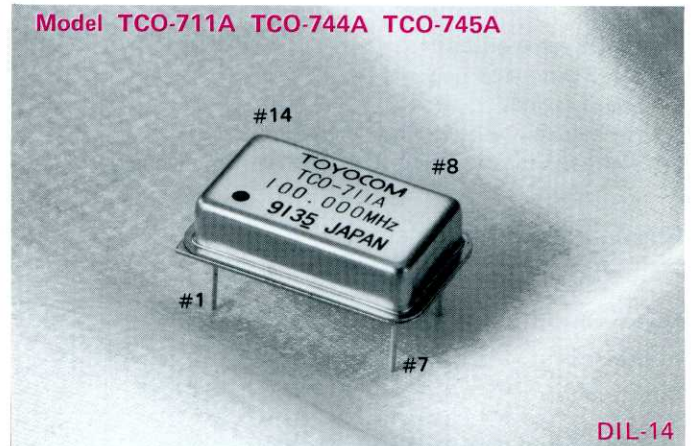


FULL DIP TTL 711A Series

Features

- TTL logic output
- DIL-14 pin package compatible
- Hermetically sealed metal package
- Case ground 7-pin for minimizing RF radiation

Model TCO-711A TCO-744A TCO-745A



Dimensions
 20.8x13.2x5.0 max. (mm) .820x.520x.200 max. (inch)
Pin Connections
 #14 V_{CC} #8 OUTPUT
 #1 N.C. #7 GND/CASE

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.5 to +7.0	V
Input voltage	V _{IN}	-0.5 to V _{CC} +0.5	V
Output voltage	V _O	-0.5 to V _{CC} +0.5	V
Input current	I _{IN}	±10	mA
Output current	I _O	±25	mA
Storage temperature	T _{stg}	-55 to +125	°C

Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Frequency range	F _O	0.25	—	100	MHz	TCO-711A
		0.25	—	70	MHz	TCO-744A, TCO-745A
Frequency stability	ΔF/F _O	-100	—	100	ppm	TCO-711A *1
		-25	—	25	ppm	TCO-744A
		-50	—	50	ppm	TCO-745A
Operating temperature	T _{opr}	0	25	70	°C	
Operating voltage	V _{CC}	4.5	5.0	5.5	V	DC
Operating current	I _{CC}	—	—	*3	mA	V _{CC} = 5.5V
Output voltage	V _{OH}	2.4	—	—	V	I _{OH} = -0.4 mA
	V _{OL}	—	—	0.4	V	I _{OL} = 16 mA
Symmetry	SYM	40	50	60	%	at 1.4V
Rise/Fall time	t _r , t _f	—	—	*3	ns	at 0.4V to 2.4V/at 2.4V to 0.4V
Fanout	n	—	—	10	—	0.25 to 60 MHz
		—	—	5	—	60+ to 100 MHz
Start-up time	t _{st}	—	—	4	ms	0.25 to 26 MHz *2
		—	—	10	ms	26+ to 100 MHz *2

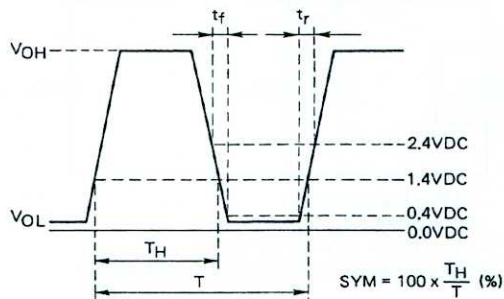
*1 Inclusive of calibration tolerance at 25°C, operating temperature, operating voltage range, load change, aging, shock and vibration.

*2 Rise time (0 to 4.5V) of V_{CC} > 150 μs

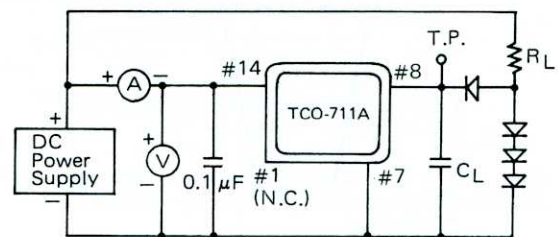
*3

Freq.	1.5 to 9	9+ to 23	23+ to 32	32+ to 60	60+ to 80	80+ to 100	MHz
I _{CC}	30	30	40	50	70	90	mA
t _r , t _f	15	10	10	5	5	4	ns

Output waveform



Test circuit



TTL logic output
 R_L = 400Ω (0.25 to 60 MHz)
 R_L = 800Ω (60+ to 100 MHz)

C_L = 15 pF max.
 Note: total fixture and probe capacitance