

TOSHIBA Bipolar Digital Integrated Circuit Silicon Monolithic

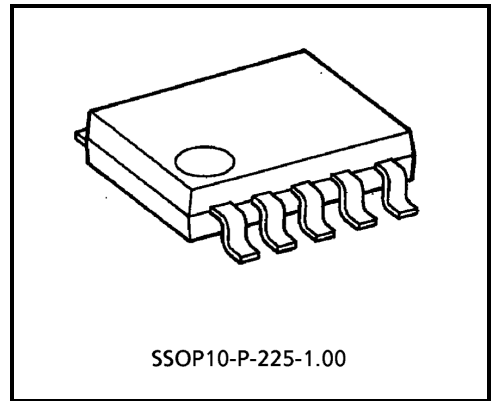
TD7103F

ECL Prescaler For Digital Synthesized Tuner

TD7103F is 1.5V prescaler for digital synthesizer tuner and suitable for FM / TV band receiving.

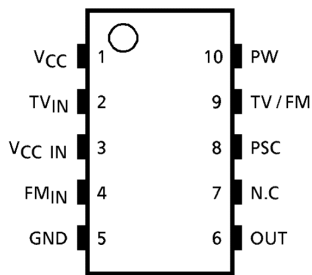
Features

- Low voltage: $V_{CC} (MIN.) = 1.0V$
- Operating frequency FM: 50~150MHz
TV: 50~250MHz
- 2 modulus prescaler: $N = 60 / 64, 120 / 128$
- Built-in stand-by circuit

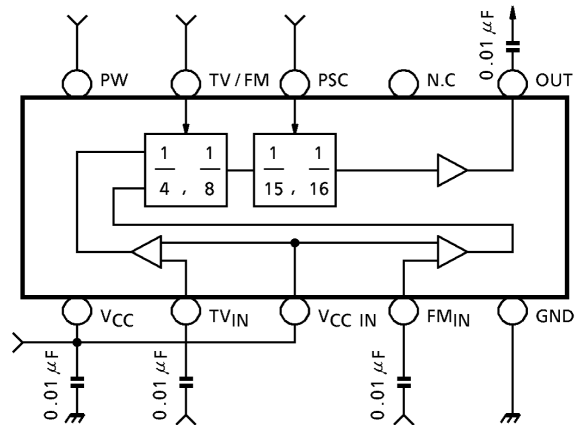


Weight: 0.10g (typ.)

Pin Connection



Block Diagram



Pin Function

Pin No.	Symbol	Function			Remarks	
1, 3	V _{CC}	Power supply terminal			—	
2	TV _{IN}	Signal input terminal TV (VHF) local oscillator			—	
4	FM _{IN}	Signal input terminal FM local oscillator			—	
5	GND	Ground terminal			—	
6	Out	Divider signal output terminal			—	
8	PSC	2 modulus mode control terminal	TV / FM	PSC	Dividing	—
			L	L	60	
			L	H	64	
			H	L	120	
9	TV / FM	Mode selection terminal	H	H	128	
			H	H	128	
10	PW	PW stand-by terminal	"H": Operate "L" or open: Stand-by		—	

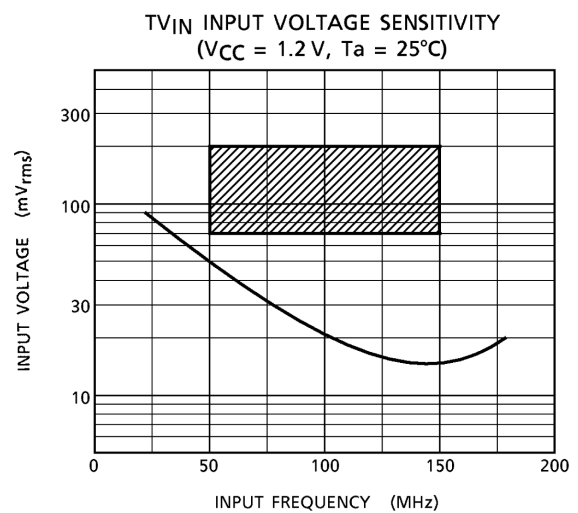
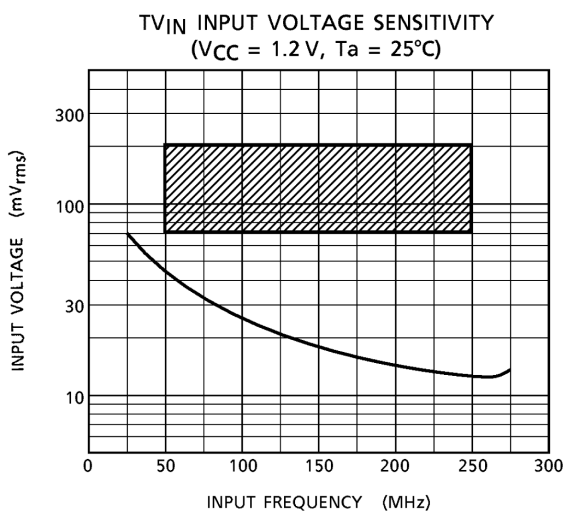
Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Power supply voltage	V _{CC}	4.5	V
Input voltage	V _{IN}	-0.3~V _{CC} + 0.3	V
Power dissipation	P _D	400 (Note)	mW
Operating temperature	T _{opr}	-25 ~ 75	°C
Storage temperature	T _{stg}	-55 ~ 150	°C

(Note) Derated linearly above Ta = 25°C in the proportion of 3.2 mW / °C

Electrical Characteristics (unless otherwise specified, V_{CC} = 1.0~3.0V, Ta = -25~75°C)

Characteristic		Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit
Supply voltage		V _{CC}	—	—	1.0	—	3.0	V
Supply current		I _{CCopr}	—	V _{CC} = 1.2V	—	6	10	mA
		I _{CCSTB}	—	V _{CC} = 3.0V	—	1	10	μA
Operating frequency range	FM	f _{IN (FM)}	—	V _{IN} = 70mV _{rms}	50	—	150	MHz
	TV	f _{IN (TV)}	—	V _{IN} = 70mV _{rms}	50	—	250	
Input voltage		V _{IN}	—	—	70	—	200	mV _{rms}
Output amplitude		V _{OUT}	—	—	0.4	—	—	V _{p-p}
Input voltage	"H" level	V _{IL}	—	PSC, TV / FM, STB	V _{CC} × 0.8	—	V _{CC}	V
	"L" level	V _{IH}	—	PSC, TV / FM, STB	0	—	V _{CC} × 0.2	
Input current	"H" level	I _{IL}	—	—	—	—	100	μA
	"L" level	I _{IH}	—	—	—	—	-100	

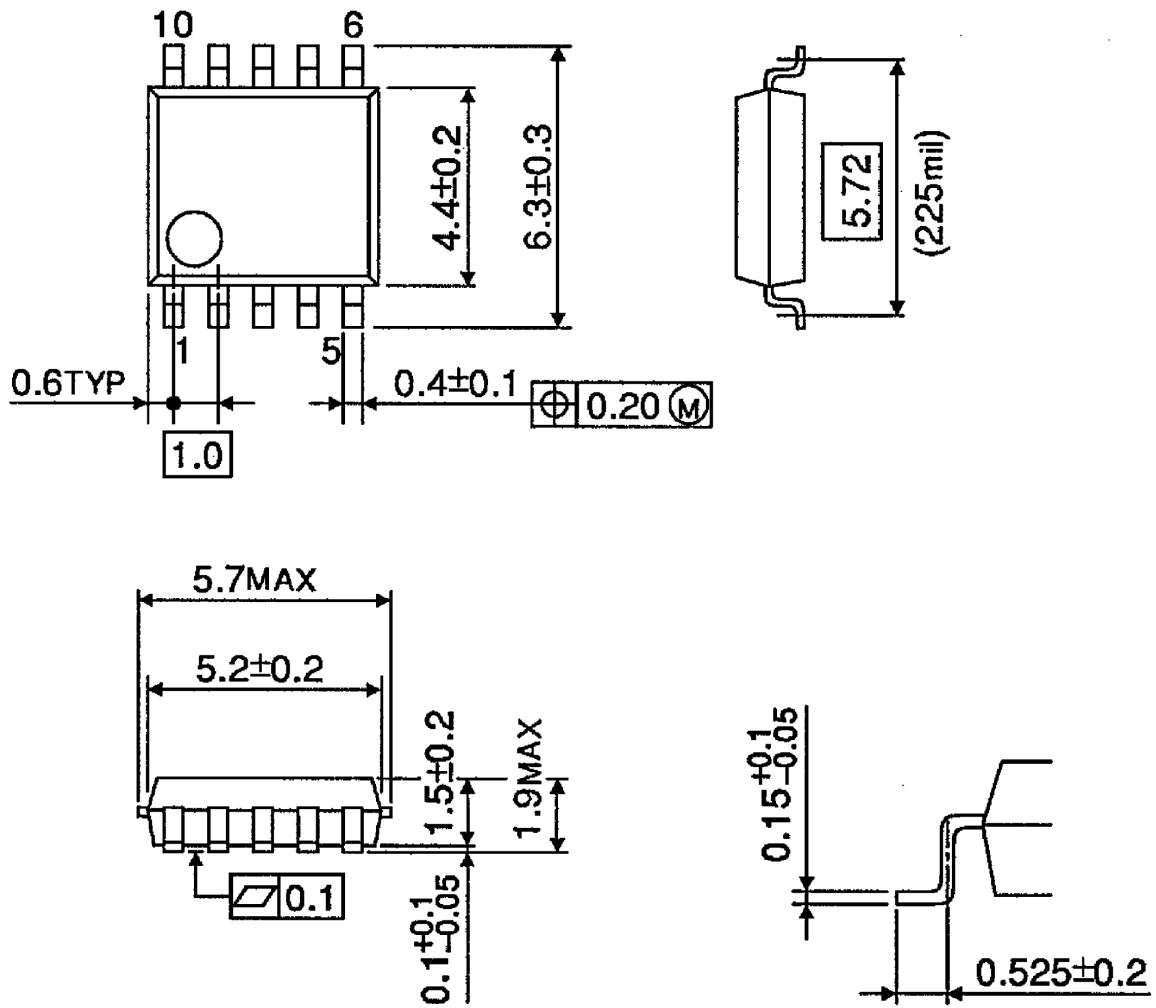


(Note) Operating range (V_{CC} = 1.0~3.0V, Ta = 25~75°C)

Package Dimensions

SSOP10-P-225-1.00

Unit : mm



Weight: 0.10g (typ.)

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