

FEATURES

- HIGH FREQUENCY OPERATION: 2.5 GHz
- WIDE BAND APPLICATION: 0.5 to 2.5 GHz
- SINGLE SUPPLY VOLTAGE: $V_{cc} = 5 V \pm 10\%$
- SMALL PACKAGE

DESCRIPTION AND APPLICATIONS

The UPB588 series of devices are divide-by-128/64 bipolar digital prescalers. They feature high frequency operation, 2.5 GHz, and operate from a single 5.0 volt supply. The series is available in two package styles: 8 lead ceramic flat package (UPB588B) and an 8 pin mini-flat (UPB588G). The series is also available in chip form (UPB588P). Applications include: synthesizer for DBS receiver and telecommunication applications.

RECOMMENDED OPERATING CONDITIONS (TA = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V_{cc}	Supply Voltage	V	4.5 to 5.5
T_{op}	Operating Temperature	°C	-20 to +75

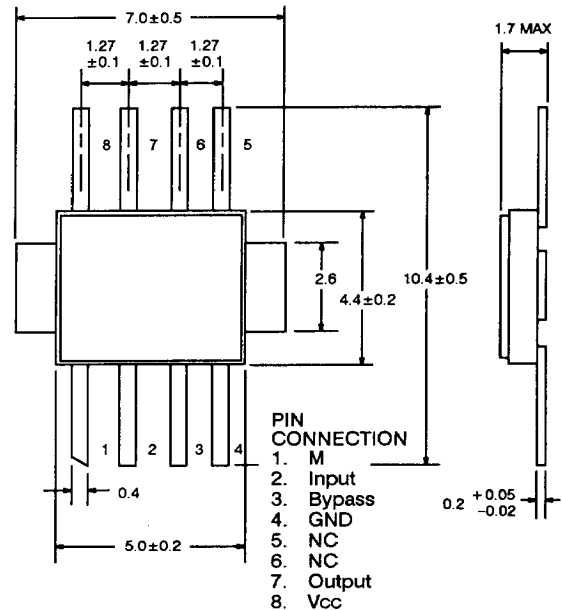
PIN DESCRIPTION

PIN NO.	SYMBOL	DESCRIPTION	
1	M	Division Ratio Control*	
		M	Division Ratio
		L (GND)	1/128
		H (V_{cc})	1/64
2	INPUT	Signal Input Pin	
3	BYPASS	Input Bypass Pin, shall be connected to ground through bypass capacitor	
4	GND	Ground Pin	
5	NC	NON Connection	
6	NC	NON Connection	
7	OUTPUT	Output Pin	
8	V_{cc}	Power Supply	

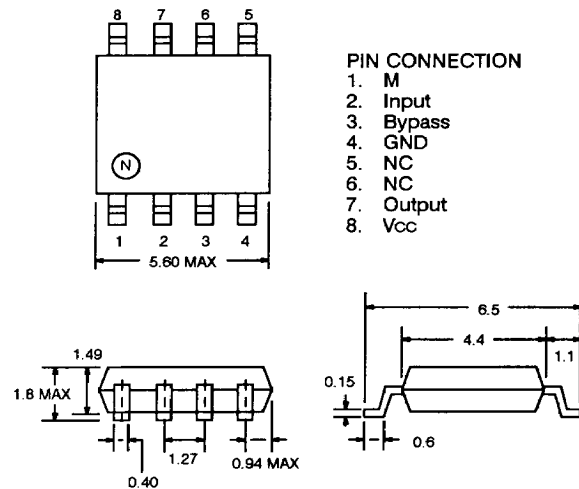
* See Note on Back Page.

OUTLINE DIMENSIONS (Units in mm)

OUTLINE BF08



OUTLINE C08



ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
Vcc	Supply Voltage	V	-0.5 to 6.0
VIN	Input Voltage	V	-0.5 to Vcc + 0.5
PIN	Input Power	dBm	+ 10
PT	Power Dissipation UPB588B UPB588G	W mW	1.5 (Tc = + 125°C) 250
TOP	Operating Temperature UPB588B UPB588G	°C °C	-55 to +125 -40 to +85
TSTG	Storage Temperature UPB588B UPB588G	°C °C	-65 to +200 -65 to +125

ELECTRICAL CHARACTERISTICS* (TA = -20 to +75°C, Vcc = 5 V ± 10%, ZS = ZL = 50 Ω)

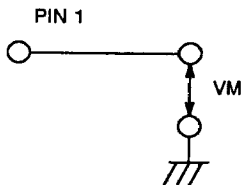
PART NUMBER PACKAGE OUTLINE			UPB588B, UPB588G BF08, C08		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
fIN (U) 1	Input Frequency (Upper) at PIN = -15 dBm	GHz	2.3		
fIN (U) 2	Input Frequency (Upper) at PIN = -10 dBm	GHz	2.5		
fIN (L)	Input Frequency (Lower) at PIN = -15 dBm	GHz			0.5
PIN1	Power Input at fIN = 0.5 to 2.3 GHz	dBm	-15		+5
PIN2	Power Input at fIN = 0.5 to 2.5 GHz	dBm	-10		+5
POUT	Power Output at fIN = 2 GHz, PIN = 0 dBm, Vcc = 5 V, TA = 25°C	dBm		-7	
Icc	Supply Current at Vcc = 5 V, TA = 25°C	mA	18	26	34

*When handling the device a ground strap should be used to prevent Electric Static Discharge (ESD) that can damage the IC.

4

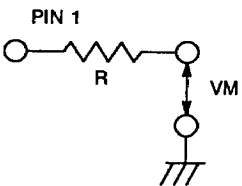
NOTES:

Control Voltages:



WITHOUT EXTERNAL RESISTOR

		MIN	MAX
VM	HIGH	Vcc	
	LOW		Vcc - 0.5



WITH EXTERNAL RESISTOR (R = 300 kΩ)

		MIN	MAX
VM	HIGH	Vcc - 0.2 V	
	LOW		Vcc x 0.3