

MB467 LOW POWER PRESCALER

1

200MHz, LOW POWER PRESCALER

The Fujitsu MB467 is a prescaler, which is used in Phase Locked Loop (PLL) frequency synthesizer. The MB467 will divide by 10 when SW pin is high (V_{CC} level) and by 20 when SW pin is low (open or $1/2V_{CC}$ level). The output is an open collector output to drive TTL or CMOS logic circuit.

- Operating Frequency: 200MHz max.
- Low Power Consumption: 30mW typ.
- Low Level Input Voltage: $V_{IH} \geq 150mV_{P-P}$
- Wide Operation Temperature: $T_A = -30^\circ\text{C}$ to $+85^\circ\text{C}$
- Power Supply Voltage: $V_{CC} = +5V \pm 10\%$
- Interface
 - Input: Capacitor coupling due to internal biased input
 - Output: Open collector output
- Plastic 8-pin Standard Dual-In-Line Package: (Suffix: -P)
- Plastic 8-pin Standard Flat Package: (Suffix: -PF)



PLASTIC PACKAGE
DIP-08P-M01



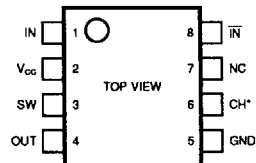
PLASTIC PACKAGE
FPT-08P-M01

ABSOLUTE MAXIMUM RATINGS (See NOTE)

Rating	Symbol	Value	Unit
Supply Voltage	V_{CC}	-0.5 to +7.0	V
Input Voltage	V_{IH}	-0.5 to V_{CC}	V
Output Current	I_o	0 to +5	mA
Junction Temperature	T_J	+125	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$

NOTE: Permanent device damage may occur if the above **Absolute Maximum Ratings** are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

PIN ASSIGNMENT

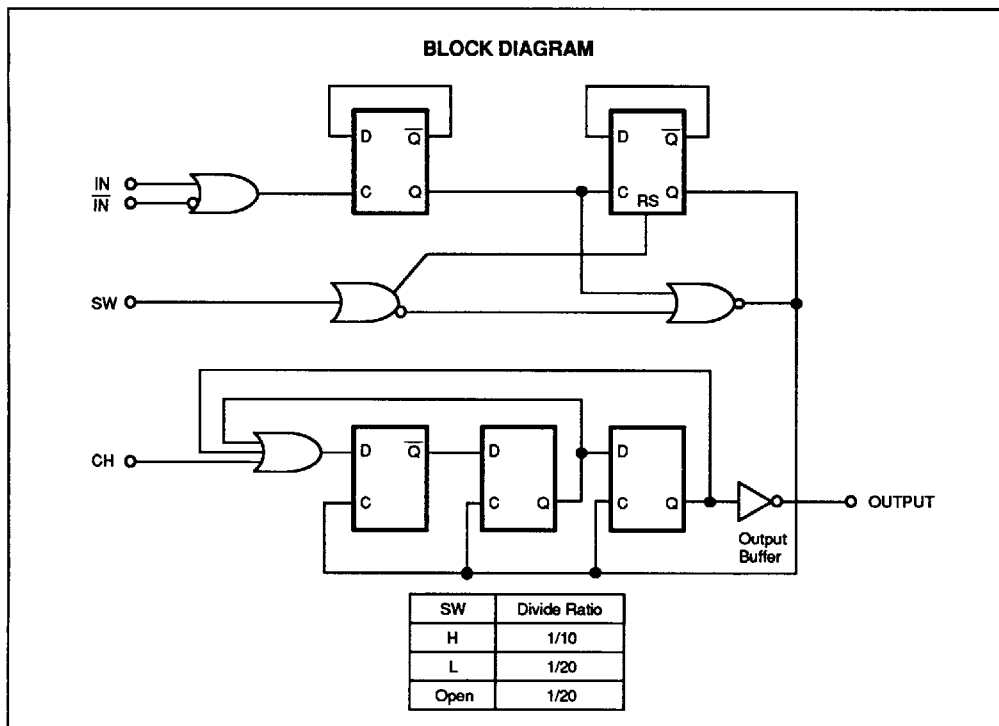


Note: *It should be open.

This device contains circuitry to protect the inputs against damage due to high static voltages or electric fields. However, it is advised that normal precautions be taken to avoid application of any voltage higher than maximum rated voltages to this high impedance circuit.

MB467

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PIN DESCRIPTION

Pin Number	Symbol	Function
1	IN	Input
2	V _{cc}	DC Supply Voltage Input
3	SW	Divide Ratio Control Input (See Divide Ratio Table)
4	OUT	Output
5	GND	Ground
6	CH	Check Input For Outgoing Test. It should be open.
7	NC	Non Connection
8	$\overline{\text{IN}}$	Complementary Input

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Power Supply Voltage	V_{CC}	4.5	5.0	5.5	V
Ambient Temperature	T_A	-30		+85	°C
Load Capacitance	C_L			7	pF

ELECTRICAL CHARACTERISTICS

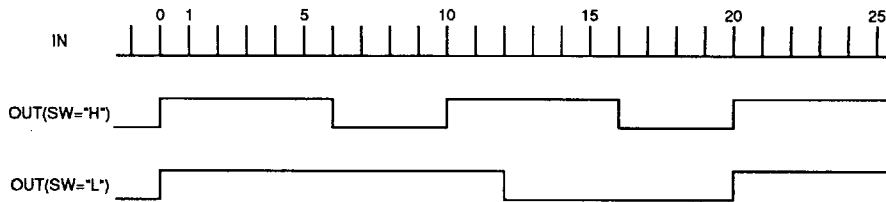
($V_{CC}=+5V\pm 10\%$, $T_A=-30$ to $+85^\circ\text{C}$)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Power Supply Current	I_{CC}	$V_{CC}=5.0V$, $T_A=25^\circ\text{C}$		6	10	mA
High-level Output Voltage	V_{OH}	With 2k Ω pull-up resistor to V_{CC}	4.0			V
Low-level Output Voltage	V_{OL}	With 2k Ω pull-up resistor to V_{CC}			0.4	V
Input Frequency	f_{IN}	V_{IN} : 150mV _{p-p} sine wave	10		200	MHz
Input Signal Amplitude for IN	V_{IN}		150		2000	mV _{p-p}

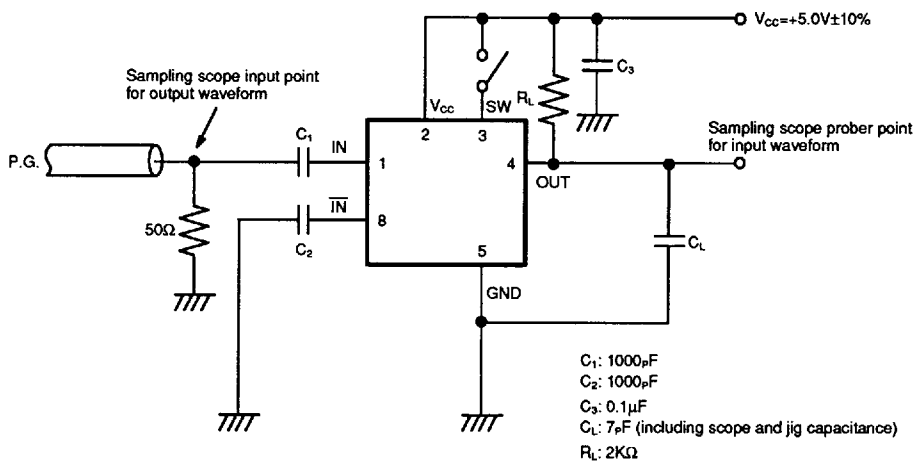
MB467

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TIMING CHART



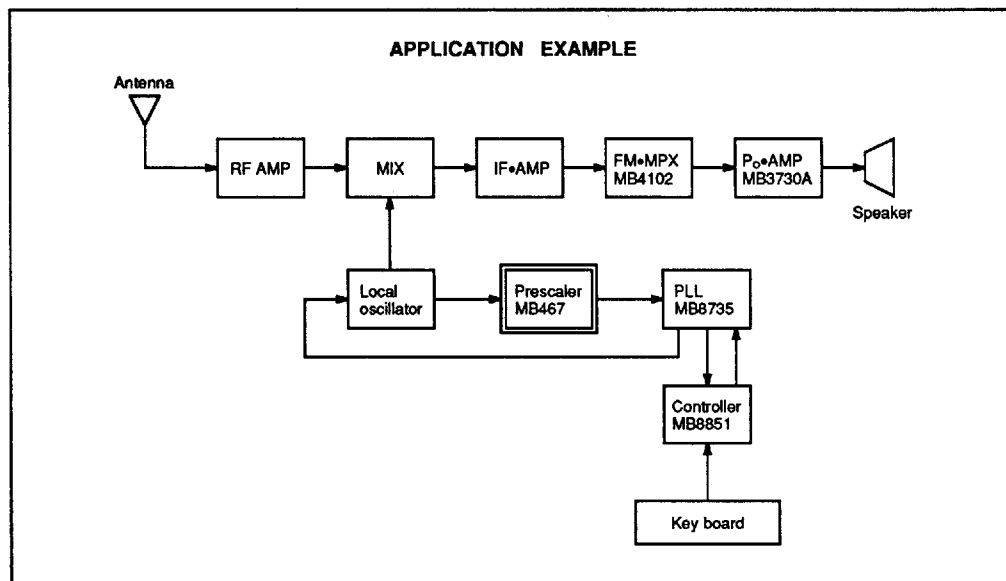
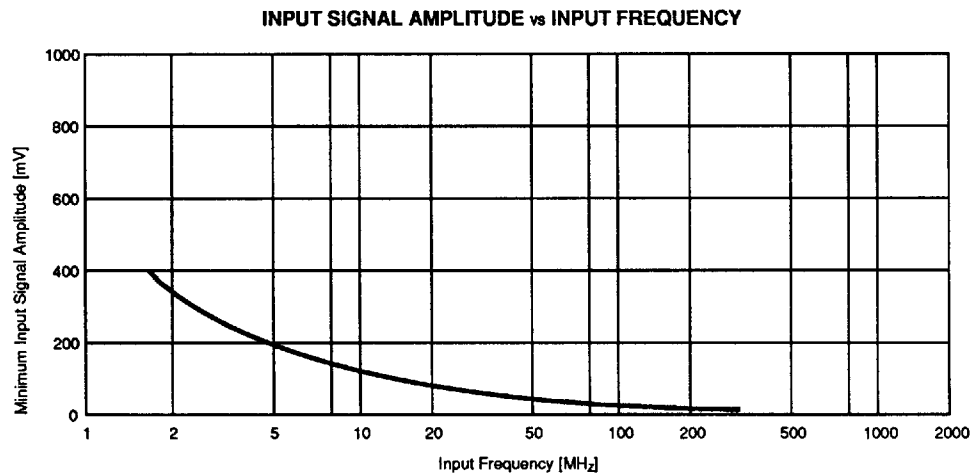
TEST CIRCUIT



Note: Input frequency has a influence of input signal amplitude, input signal slew rate, and input coupling capacitor value.
 The MB467 can operate down to DC when large value of above parameters are selected.
 The MB467 starts self-oscillation unless signal is input.
 When a double drive, please connect either of input pins to GND by a 39 kohms pull down resistor. The oscillation is prevented easily.
 When a single drive, please connect a pull down resistor to unused pin.

TYPICAL CHARACTERISTICS CURVE

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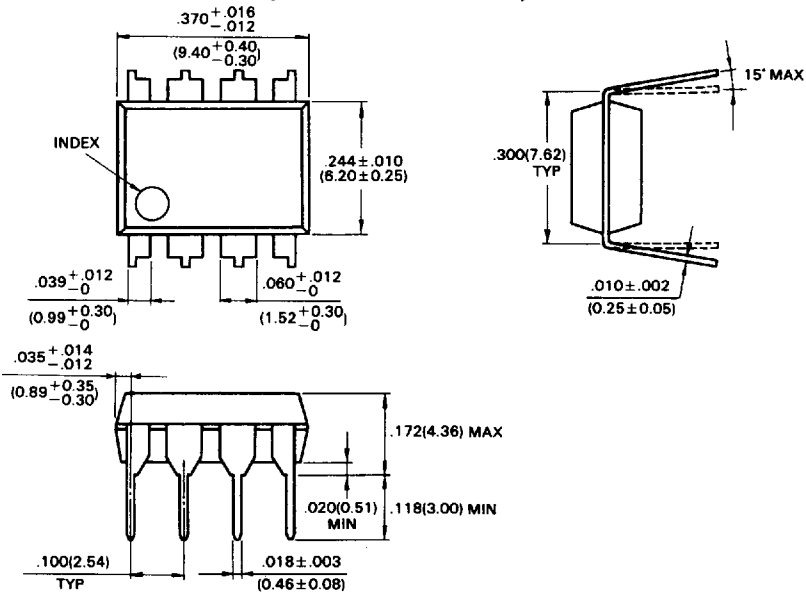


MB467

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PACKAGE DIMENSIONS

8-LEAD PLASTIC DUAL-IN-LINE PACKAGE (CASE No. : DIP-08P-M01)



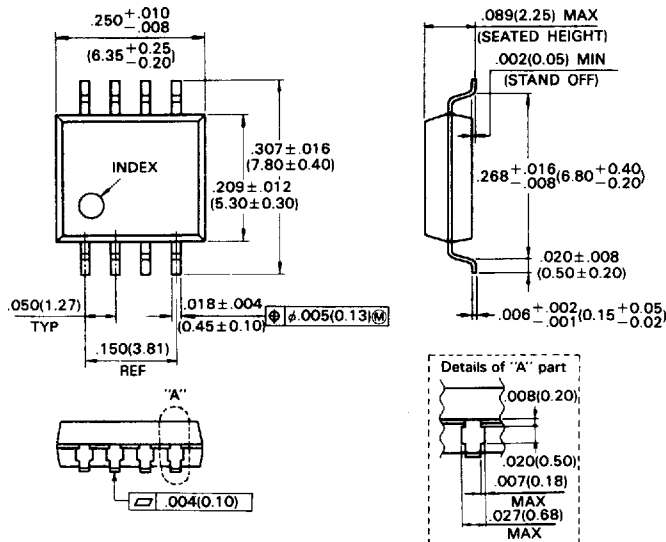
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Dimensions in
inches (millimeters)

PACKAGE DIMENSIONS

(Suffix: -PF)

8-LEAD PLASTIC FLAT PACKAGE (CASE No. : FPT-08P-M01)



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Dimensions in
inches (millimeters)