

MB517

LOW POWER & LOW VOLTAGE TWO MODULUS PRESCALER

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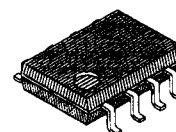
The Fujitsu MB517 is a low power two modulus prescaler used in phase locked loop (PLL) frequency synthesizer and divides the input frequency by the modulus of 64/65 or 128/129, respectively. The MB517 achieves extremely small stray capacitance of internal element, realized through the use of Fujitsu Advanced Process Technology.

As the result, high speed operation is achieved with low power supply current of 3.0mA typ., about sixth value of MB507 (18mA).

FEATURES

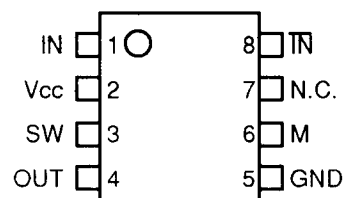
- High frequency operation : $f_{max} = 2.0\text{GHz}$ max.
- Pulse swallow function : 64/65, 128/129
- Low power supply current : 3.0mA typ. (at $V_{cc} = 3\text{V}$)
MB507 : 18mA typ.
- Stable output amplitude : 1.1Vp-p typ.
- Wide operating temperature : -40°C to $+85^{\circ}\text{C}$
- Built-in a terminal resistor
- Plastic 8-pin Small-outline package (SOP) (Suffix: -PF)

PRELIMINARY



PLASTIC PACKAGE
FPT-8P-M01

PIN ASSIGNMENT



ABSOLUTE MAXIMUM RATINGS

Ratings	Symbol	Value	Unit
Supply Voltage	V_{cc}	-0.5 to +4.0	V
Input Voltage	V_{IN}	-0.5 to V_{cc}	V
Output Current	I_o	10	mA
Storage Temperature	T_{STG}	-55 to +125	$^{\circ}\text{C}$

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.

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.

RECOMMENDED OPERATING CONDITIONS

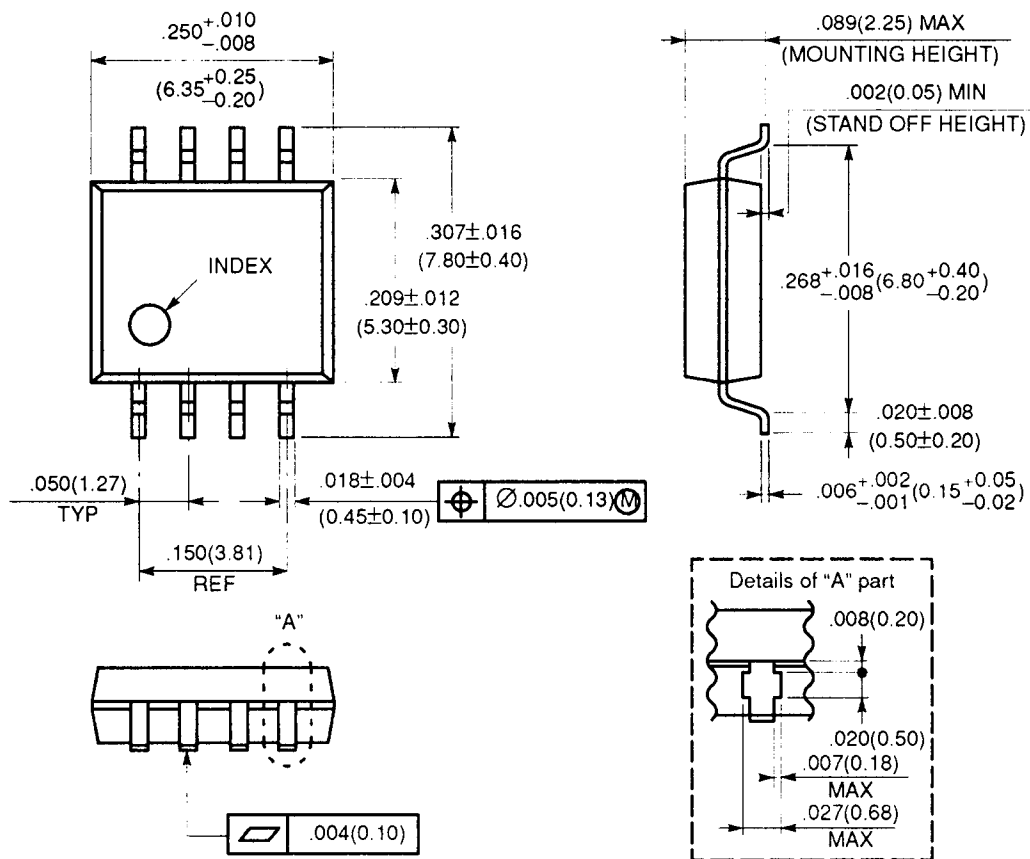
Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Supply Voltage	V _{CC}	2.7	3.0	3.3	V
Output current	I _O			500	μA
Operating Temperature	T _a	-40		+85	°C

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Unit	
			Min.	Typ.	Max.		
Power Supply Current	I _{CC}	V _{CC} = 3.0V		3.0		mA	
Output Amplitude	V _O	C _L ≤ 8pF, built-in R _L	0.5	1.1		V	
Input Frequency	f _{IN}				2000	MHz	
Input Signal Amplitude	V _{IN}		-5		5	dBm	
High Level Input Voltage	M Input	V _{IHM}	V _{IHM} = 1/2 V _{CC} + 0.3	V _{IHM}		V	
Low Level Input Voltage		V _{ILM}				0.8	V
High Level Input Voltage	SW Input	V _{IHS}		V _{CC} -0.1	V _{CC}	V _{CC}	V
Low Level Input Voltage		V _{ILS}		OPEN			V
High Level Input Current	M Input	I _{IHM}	V _{IH} = 2.0V			30	μA
Low Level Input Current		I _{ILM}	V _{IL} = 0.8V		-30		μA
Modulus Set-up time	t _{SET}			16	26	ns	

PACKAGE DIMENSIONS

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



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Dimensions in inches (millimeters)

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Circuit diagrams utilizing Fujitsu products are included as a means of illustrating typical semiconductor applications. Complete Information sufficient for construction purposes is not necessarily given.

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