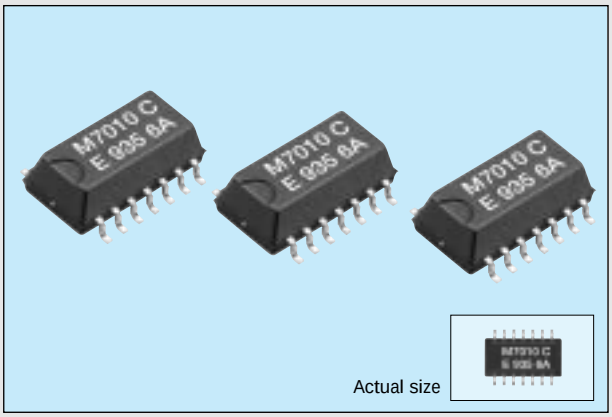
SELECTABLE-OUTPUT PLL OSCILLATOR

MG-7010SA

- Can output one CPU frequency among 15 selections.
- Reflow able, high-density mounting-type SMD.
- Provided with output enable and stand-by function to allow low current consumption.
- Using C-MOS IC allows low current consumption and assures high reliability.



Specifications (characteristics)

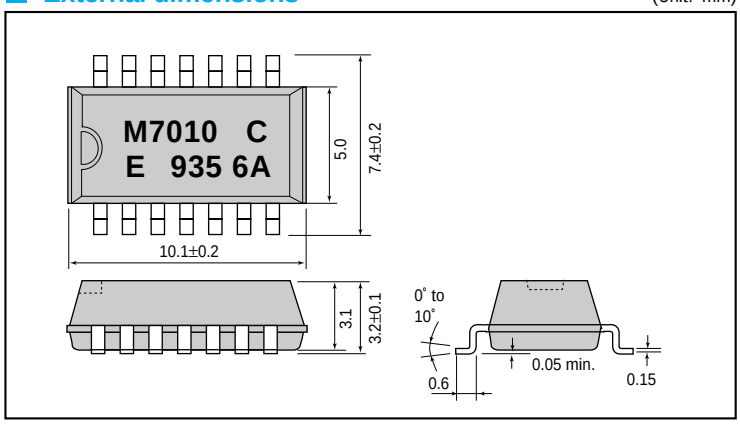
Item		Symbol	Specifications	Remark
Frequency change time		t_{ft}	10ms max.	S0, S1, S2, S3 changing
Output frequency range		f_0	20.0000 MHz to 120.0000 MHz	V_{DD}=4.5V to 5.5V
			20.0000 MHz to 80.0000 MHz	V_{DD}=2.7V to 5.5V
Power source voltage	Max. supply voltage	V_{DD}-GND	-0.5V to +7.0V	
	Operating voltage	V_{DD}	2.7V to 5.5V	
Temperature range	Storage temperature	T_{STG}	-55˚C to +100˚C	Stored as bare product after unpacking
	Operating temperature	T_{OPR}	-10˚C to +70˚C	
Soldering condition		T_{SOL}	Twice at under 260˚C within 10 sec. or under 230˚C within 3 min.	
Frequency stability		$\Delta f / f_0$	C: ±100ppm	-10˚C to +70˚C, V_{DD}=2.7V to 5.5V
Current consumption		I_{op}	45mA max.	No load condition (fo=120 MHz)
Output disable current		I_{OE}	25mA max.	OE=GND, fo=120 MHz
Standby current		I_{ST}	10µA max.	$\overline{ST}$=GND
Duty		t_w/t	40% to 60%	1.4V level
High output voltage		V_{OH}	V_{DD} -0.5V min.	I_{OH} = -16mA (V_{DD}=5±0.5V)
Low output voltage		V_{OL}	0.4V max.	I_{OL} = 16mA (V_{DD}=5±0.5V)
Output load condition		C_L	25pF max.	V_{DD}=4.5V to 5.5V($f_0 \leq$ 80 MHz)
			15pF max.	V_{DD}=2.7V to 4.5V or $f_0 >$ 80 MHz
High input voltage		V_{IH}	2.0V min.	$\overline{ST}$,OE terminal
Low input voltage		V_{IL}	0.8V max.	$\overline{ST}$,OE terminal
Output rise time		t_{TLH}	4.0ns max.	20%→80%V_{DD} level
Output fall time		t_{THL}	4.0ns max.	80%→20%V_{DD} level
Oscillation start up time		t_{OSC}	10ms max.	Time at 4.5V to be 0 sec.
Aging		f_a	±5ppm/year max.	Ta=25˚C, V_{DD} =3.3V or 5.5V
Shock resistance		S.R.	±20ppm max.	Three drops on a hard board from 75 cm or excitation test with 3000g x 0.3ms 1/2 sine wave in 3 directions

Output frequency

Select bit	Output frequency (MHz)															
	100.0	33.33	30.0	120.0	25.0	20.0	70.0	80.0	75.0	66.66	60.0	60.0	50.0	45.0	90.0	40.0
S3	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
S2	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
S1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
S0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1

External dimensions

(Unit: mm)



Terminal connection

Terminal No.	Terminal symbol	Function
1	S3	Frequency select bit 3
2	GND	Ground
4	S0	Frequency select bit 0
5	S1	Frequency select bit 1
6	OE	Output Enable control Clock out at "H" high-impedance at "L"
7	$\overline{ST}$	Stand by control "H"→Clock out "L"→"Level"
8	V_{DD}	Power supply
13	OUT	Clock output
14	S2	Frequency select bit 2
3, 9, 10 11, 12	N.C	No connection

THE CRYSTALMASTER

ENERGY SAVING EPSON

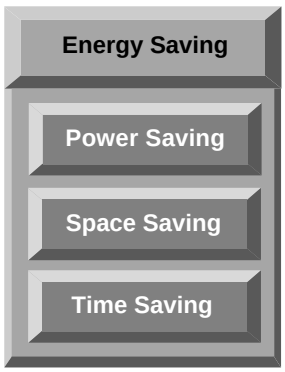
ENERGY SAVING EPSON

EPSON offers effective savings to its customers through a wide range of electronic devices, such as semiconductors, liquid crystal display (LCD) modules, and crystal devices. These savings are achieved through a sophisticated melding of three different efficiency technologies.

Power saving technology provides low power consumption at low voltages.

Space saving technology provides further reductions in product size and weight through super-precise processing and high-density assembly technology.

Time saving technology shortens the time required for design and development on the customer side and shortens delivery times.



Our concept of Energy Saving technology conserves resources by blending the essence of these three efficiency technologies. The essence of these technologies is represented in each of the products that we provide to our customers.

In the industrial sector, leading priorities include measures to counter the greenhouse effect by reducing CO2, measures to preserve the global environment, and the development of energy-efficient products. Environmental problems are of global concern, and although the contribution of energy-saving technology developed by EPSON may appear insignificant, we seek to contribute to the development of energy-saving products by our customers through the utilization of our electronic devices. EPSON is committed to the conservation of energy, both for the sake of people and of the planet on which we live.

SEIKO EPSON CORP. QUARTZ DEVICE DIVISION acquired ISO9001 and ISO14001 certification by B.V.Q.I. (Bureau Veritas Quality International) .

ISO9001 in October, 1992.

ISO14001 in November,1997.