Clock Oscillators　Leaded Type
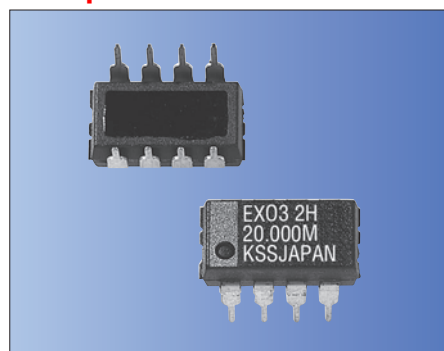## KCEXO3 (EXO-3)

KYOCERA

This product is NOT recommended for new designs.

Pb Free　　RoHS Compliant

Features
- Since it has a frequency deviding function, it is able to obtain a frequency devision of $^1/_2$ to $^1/_{2^8}$ ($^1/_{256}$)
- The symmetry of frequency devided output is within 50 ±2%
- The oscillation start time has the fast starting characteristic of being 1.5m sec. or less
- The pin arrangement is DIP 8PIN
- Supply voltage V_{CC} =5.0V

Applications
- Amusement
- Digital Electronics

How to Order

KCEXO3-　20.0000　C　5　1　B　00
　①　　　②　　③ ④ ⑤ ⑥ ⑦

① Type
② Output Frequency
③ Output Type (CMOS)
④ Supply Voltage (5.0V)
⑤ Frequency Tolerance
⑥ Symmetry/ Enable Function (40/ 60%, Stand-by)
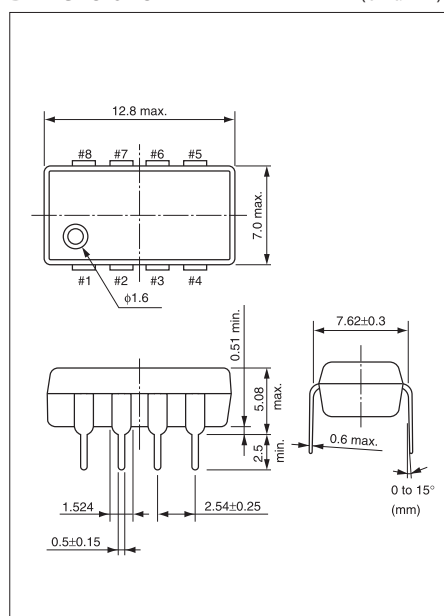⑦ Customer Special Model Suffix (STD Specification is "00")

Specifications

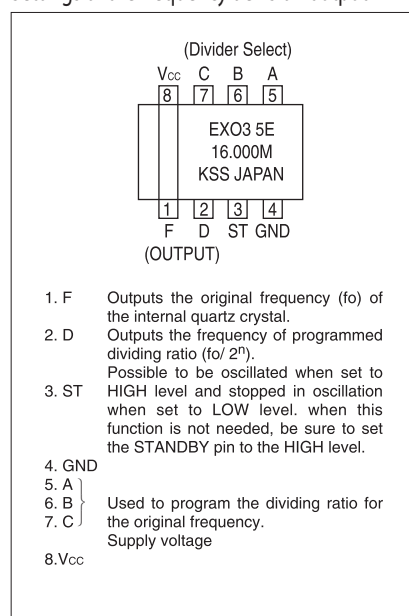| Item	Symbol	Conditions	Specifications Min.	Specifications Max.	Units
Output Frequency Range	fo		11.0592	24.576	MHz
Frequency Tolerance (Overall)	f_{tol}		−100	+100	$\times 10^{-6}$
Storage Temperature Range	T_{stg}		−40	+85	°C
Operating Temperature Range	T_{use}		−10	+70	°C
Supply Voltage	V_{CC}		4.5	5.5	V
Current Consumption	I_{CC}		—	20	mA
Stand-by Current	I_{std}		—	10	μA
Symmetry	SYM	@50% V_{CC}	40	60	%
Rise/ Fall Time	tr/ tf		—	15	nS
Low Level Output Voltage	V_{OL}		—	10% V_{CC}	V
High Level Output Voltage	V_{OH}		90% V_{CC}	—	V
CMOS Load	L_CMOS		—	50	pF
Disable Time	t_{dis}		—	100	nS
Enable Time	t_{ena}		—	5	mS
Start-up Time	t_{str}		—	1.5	mS

Note: All electrical characteristics are defined at the maximum load and operating temperature range.
Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Dimensions　　　　　(Unit: mm)

Settings of the frequency devision output

(Divider Select)
V_{CC}　C　B　A
8　7　6　5
EXO3 5E
16.000M
KSS JAPAN
1　2　3　4
F　D　ST GND
(OUTPUT)

1. F　Outputs the original frequency (fo) of the internal quartz crystal.
2. D　Outputs the frequency of programmed dividing ratio (fo/ 2^n).
Possible to be oscillated when set to
3. ST　HIGH level and stopped in oscillation when set to LOW level. when this function is not needed, be sure to set the STANDBY pin to the HIGH level.
4. GND
5. A
6. B　Used to program the dividing ratio for the original frequency.
7. C　Supply voltage
8. V_{CC}

A capacitor of value 0.01　μF between V_{CC} and GND is recommended.

Pin connection

Input				Output	
Select			ST	F Original Frequency	D Divided Wave form
C	B	A			
L	L	L	H	fo clock	fo・ $1/2$ clock
L	L	H	H	fo clock	fo・ $1/2^2$ clock
L	H	L	H	fo clock	fo・ $1/2^3$ clock
L	H	H	H	fo clock	fo・ $1/2^4$ clock
H	L	L	H	fo clock	fo・ $1/2^5$ clock
H	L	H	H	fo clock	fo・ $1/2^6$ clock
H	H	L	H	fo clock	fo・ $1/2^7$ clock
H	H	H	H	fo clock	fo・ $1/2^8$ clock
—	—	—	L	L	L