

# CMX-309 series

(1,000pcs/reel)



## ■ FEATURES:

- Being of the miniature plastic SMD type and featuring high efficiency in mounting, the CMX-309 is ideal for application to high-density circuit boards.
- As it incorporates a heat-resisting packaged cylinder-type crystal, it features highly stable characteristics-high enough to permit reflow soldering.
- Can be mounted automatically because of the emboss taping used.
- Low power CMOS IC.
- Provided with output enable function.

## ■ APPLICATIONS:

- Can be used for a wide range of applications including use in communication equipment, AV equipment, OA equipment and measuring instruments.

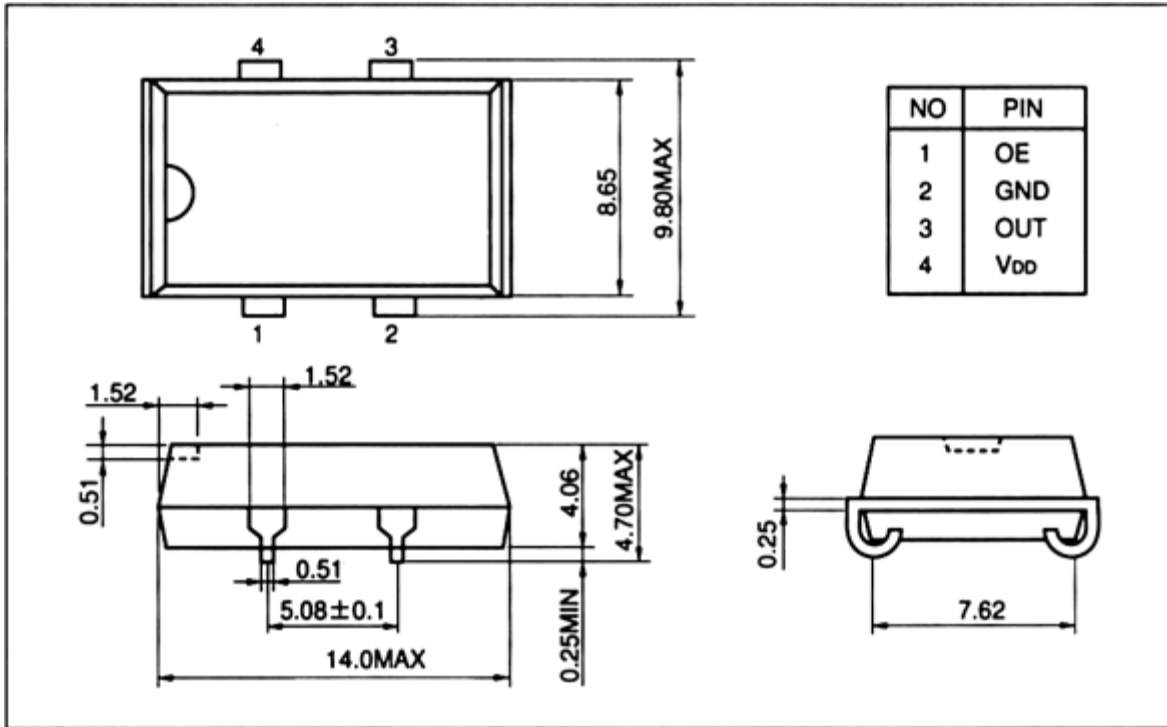
## ■ STANDARD SPECIFICATIONS

Item		CMX-309FL (FS)	CMX-309HW (HS)	CMX-309FB (FA)	CMX-309HB (HA)
Frequency range		1.000MHz to 30.000MHz	30.001MHz to 70.000MHz	1.000MHz to 30.000MHz	30.001MHz to 70.000MHz
Frequency stability		C:± 100ppm B: ± 50ppm(-20°C to +70°C)			
Operating temperature range		-20°C to +70°C (-40°C to +85°C)			
Storage temperature range		-55°C to +125°C			
Supply voltage		V <sub>DD</sub> : 5.0V ± 0.5V		V <sub>DD</sub> : 3.3V ± 0.3V	
Supply current		23mA Max.	35mA Max.	9mA Max.	20mA Max.
Duty	TTL level (1.4V) CMOS level (V <sub>DD</sub> /2)	45% to 55% (FS,HS: 40% to 60%) 40% to 60%(FS,HS: 45% to 55%)		- 40% to 60% (FA,HA:45% to 55%)	
Output voltage	V <sub>OH</sub> V <sub>OL</sub>	V <sub>DD</sub> - 0.4V Min 0.4V Max	V <sub>DD</sub> - 0.5V Min 0.5V Max	V <sub>DD</sub> -0.4V Min 0.4V Max	
Output load	TTL CMOS	10TTL Max. 50pF Max.		- 30pF Max.	
Rise & Fall time	TTL CMOS	tr,tf : 8nsec Max. tr,tf : 8nsec Max.	tr,tf : 5nsec Max. tr,tf : 7nsec Max.	- tr,tf : 6nsec Max.	
Start up time		4msec Max.	10msec Max.	4msec Max.	10msec Max.
Input (OE) voltage		V <sub>IH</sub> : 2.0V Min. V <sub>IL</sub> : 0.8V Max.			V <sub>IH</sub> : 2.4V Min. V <sub>IL</sub> : 0.6V Max.
Disable current		12mA Max.	28mA Max.	5mA Max.	15mA Max.
Aging (first year)		± 5ppm/year Max.			

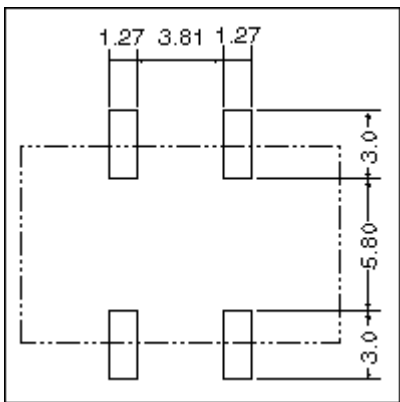
Shock resistance

± 20ppm Max.

**■ DIMENSIONS: (UNIT=mm)**



**■ RECOMENDED SOLDERING PATTERN: (UNIT=mm)**



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