

CRYSTAL OSCILLATOR (SPXO)
OUTPUT : CMOS, TTL



Product Number (please contact us)
SG-636 : Q33636xx2xxxx00

SG-636 series

- Frequency range : 2.21675 MHz to 41 MHz
- Supply voltage : 2.5 V Typ. / 3.3 V Typ. / 5.0 V Typ.
- Function : Output enable(OE) or Standby(\overline{ST})
- External dimensions : 10.5 x 5.8 x 2.7 mm (t: Max.)



Actual size

SG-636 series



Specifications (characteristics)

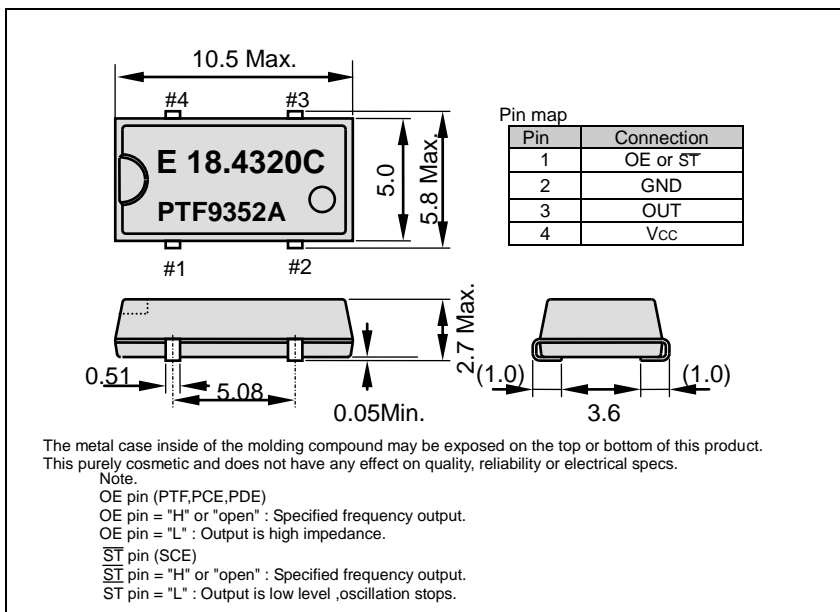
Item	Symbol	Specifications			Conditions / Remarks
		SG-636 PTF	SG-636 PCE SG-636 SCE	SG-636 PDE	
Output frequency range	f_0	2.21675 MHz to 41.000 MHz	2.21675 MHz to 40.000 MHz	2.21675 MHz to 40.000 MHz	Please contact us about available frequencies.
Supply voltage	V _{cc}	5.0 V \pm 0.5 V	3.3 V \pm 0.3 V	2.5 V \pm 0.25 V	
Storage temperature	T _{stg}	-55 °C to +100 °C			Storage as single product.
Operating temperature	T _{use}	-20 °C to +70 °C			
Frequency tolerance	f _{tol}	C: \pm 100 x 10 ⁻⁶			-20 °C to +70 °C
Current consumption	I _{cc}	17 mA Max.	9 mA Max.	5 mA Max.	No load condition
Disable current	I _{dis}	10 mA Max.	5 mA Max.	3 mA Max.	OE=GND
Stand-by current	I _{std}	—	2 μ A Max.	—	\overline{ST} =GND(SCE)
Symmetry	SYM	40 % to 60 %	45 % to 55 %		CMOS load:50 % V _{cc} level
		45 % to 55 %	—		TTL load: 1.4 V level
Output voltage	V _{OH}	V _{cc} -0.4 V Min.			I _{OH} =-8 mA(PTF) / -4 mA(SCE,PCE) / -3.2 mA(PDE)
	V _{OL}	0.4 V Max.			I _{OL} =16 mA(PTF) / 4 mA(SCE,PCE) / 3.2 mA(PDE)
Output load condition (TTL)	L _{TTL}	10 TTL Max.	—		L _{CMOS} \leq 15 pF
Output load condition (CMOS)	L _{CMOS}	50 pF Max.	30 pF Max.	15 pF Max.	
Input voltage	V _{IH}	2.0 V Min.	80 % V _{cc} Min.		OE Terminal or \overline{ST} Terminal (SCE)
	V _{IL}	0.8 V Max.	20 % V _{cc} Max.		
Rise time / Fall time	tr / tf	7 ns Max.	5 ns Max.		CMOS load:20 % V _{cc} to 80 % V _{cc} level
		5 ns Max.	—		TTL load:0.4 V to 2.4 V level
Start-up time	t _{str}	4 ms Max.	4 ms Max.		Time at minimum supply voltage to be 0 s
Frequency aging	f _{aging}	\pm 5 x 10 ⁻⁶ / year Max.			+25 °C, V _{cc} =5.0 V/3.3 V/2.5 V, First year

Product Name SG-636 PTF 18.43200MHz C
 (Standard form) ① ②③ ④ ⑤

- ①Model ②Function (P: Output enable, S:Standby) ③Supply voltage(T : 5.0V Typ. C : 3.3V Typ. D : 2.5V Typ.)
- ④Frequency ⑤Frequency tolerance(C : \pm 100 x 10⁻⁶ / -20 °C ~ +70 °C)

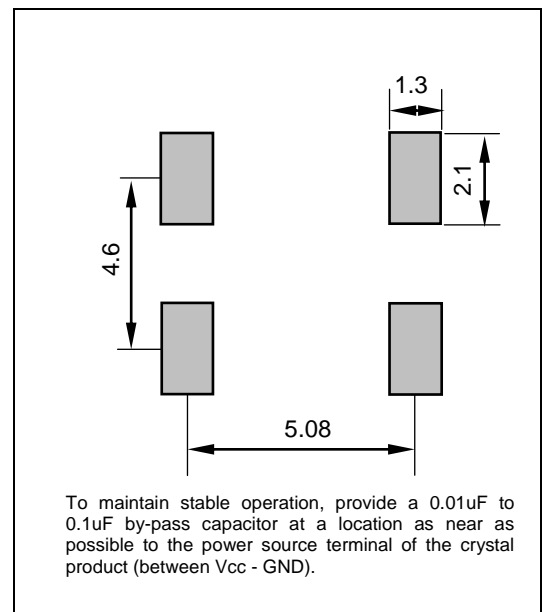
External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)



PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

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	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

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