

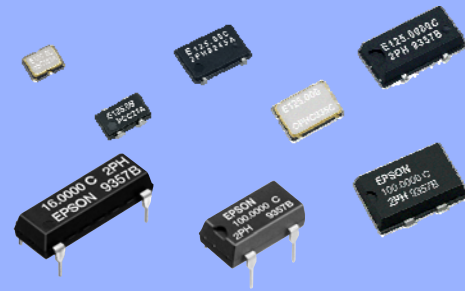
CMOS ()

SG-8002

- : 1 MHz ~ 125 MHz
- : 3.0 V Typ. / 3.3 V Typ. / 5.0 V Typ.
- : (OE) (ST)
- SG-



CE, LB, CA



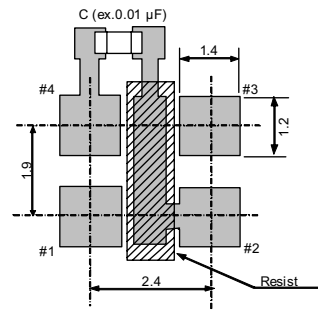
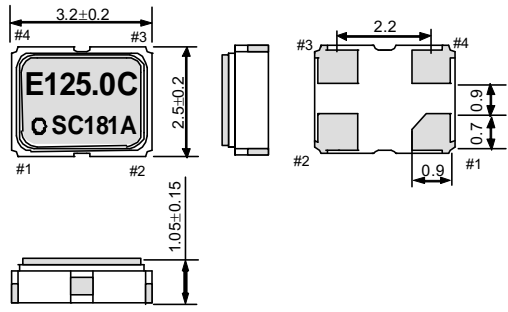
		*2			
		PT / ST	PH / SH	PC / SC	
fo		1 MHz ~ 125 MHz		—	Vcc = 4.5 V ~ 5.5 V (SG-8002LB)
		—	1 MHz ~ 80 MHz	—	Vcc = 4.5 V ~ 5.5 V (SG-8002LB)
		—	—	1 MHz ~ 125 MHz	Vcc = 3.0 V ~ 3.6 V
		—	—	1 MHz ~ 66.7 MHz	Vcc = 2.7 V ~ 3.6 V
Vcc	4.5 V ~ 5.5 V		2.7 V ~ 3.6 V		
T_stg		-55 °C ~ +125 °C (SG-8002CA / JF / JA / DC / DB)			
		-55 °C ~ +100 °C (SG-8002JC)			
		-40 °C ~ +125 °C (SG-8002CE / LB)			
*1	T_use	-20 °C ~ +70 °C / -40 °C ~ +85 °C			
f_tol		B: ±50 × 10 ⁻⁶ , C: ±100 × 10 ⁻⁶			-20 °C ~ +70 °C
		M: ±100 × 10 ⁻⁶		M: ±100 × 10 ⁻⁶	-40 °C ~ +85 °C (SG-8002JC) *3
		—	L: ±50 × 10 ⁻⁶	L: ±50 × 10 ⁻⁶	-40 °C ~ +85 °C (SG-8002LB) *3
I_cc		40 mA Max. (SG-8002CE)		28 mA Max.	
		—	30 mA Max. (SG-8002LB)		
		45 mA Max. (SG-8002CA / JF / JC / JA / DC / DB)			
I_dis		30 mA Max.		16 mA Max.	OE=GND (PT,PH,PC) (SG-8002LB)
		—	25 mA Max.	16 mA Max.	OE=GND (PH,PC) (SG-8002LB)
I_std		50 µA Max.			ST = GND (ST,SH,SC)
*1	SYM	40 % ~ 60 %	—		TTL load: 1.4 V , (SG-8002LB)
		—	40 % ~ 60 %		CMOS 50 % Vcc (SG-8002LB)
		—	40 % ~ 60 %	—	50 % Vcc, L_CMOS=15 pF, ≤80 MHz (SG-8002LB)
		—	—	40 % ~ 60 %	50 % Vcc, L_CMOS=15 pF, Vcc=3.0 V ~ 3.6 V, ≤125 MHz (SG-8002LB)
		—	—	40 % ~ 60 %	50 % Vcc, L_CMOS=15 pF, Vcc=2.7 V ~ 3.6 V, ≤66.7 MHz (SG-8002LB)
VOH	VOL	45 % ~ 55 %			
		Vcc-0.4 V Min.			IOH=-16 mA (PT,ST,PH,SH) , -8 mA (PC,SC)
TTL *1	L_TTL	0.4 V Max.			IOI=16 mA (PT,ST,PH,SH) , 8 mA (PC,SC)
		5 TTL Max.	—		(SG-8002CE / CA / JA / DC / DB)
CMOS *1	L_CMOS	5 TTL Max.			fo ≤ 90 MHz (SG-8002JF / JC)
		15 pF Max.			(SG-8002CE / JF / JC)
		—	15 pF Max.		(SG-8002LB)
VIH	VIL	15 pF Max.	25 pF Max	15 pF Max.	(SG-8002CA / JA / DC / DB)
		2.0 V Min.		70 % VCC Min.	OE ST
/ *1	tr/ tr	0.8 V Max.		20 % VCC Max.	
		4 ns Max.	—		TTL : 0.4 V ~ 2.4 V (SG-8002LB)
t_str	f_aging	3 ns Max.			CMOS : 20 % Vcc ~ 80 % Vcc
		10 ms Max.			0
		±5 × 10 ⁻⁶ / year Max.			+25 °C, Vcc=5.0 V / 3.3 V (PC,SC)

*1 / "SG-8002"

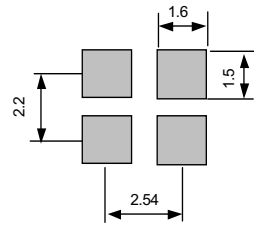
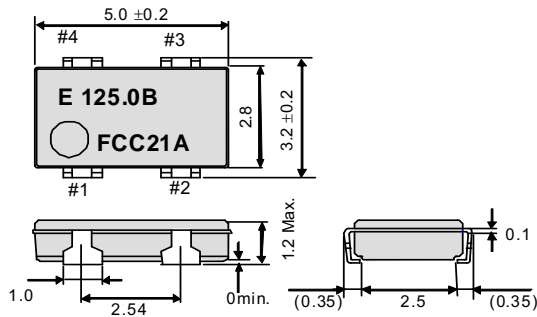
*2 PLL-PLL & " "

*3 "M" "L" "SG-8002"

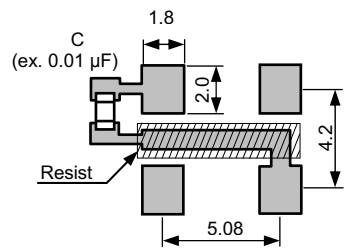
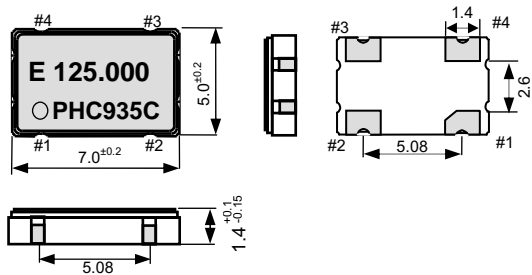
SG-8002CE Ceramic SON 4pin 3.2x2.5x1.05 mm



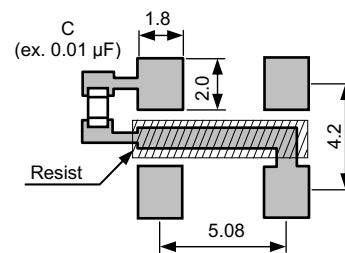
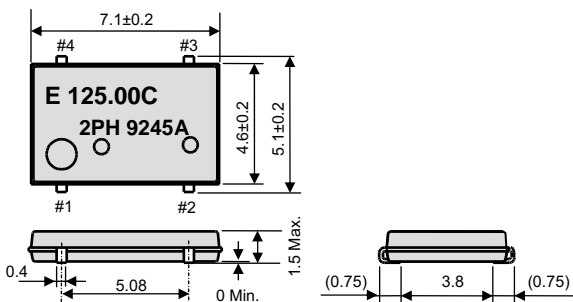
SG-8002LB SOJ 4pin 5.0x3.2x1.2 mm



SG-8002CA Ceramic SON 4pin 7.0x5.0x1.4 mm



SG-8002JF SOJ 4pin 7.1x5.1x1.5 mm



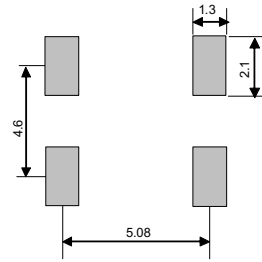
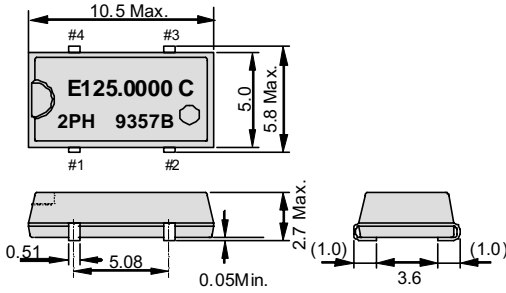
OE (PT, PH, PC)
 = H
 OE = L

ST (ST, SH, SC)
 = H
ST = L

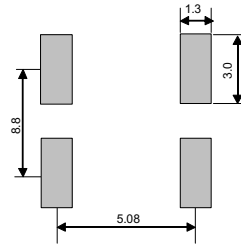
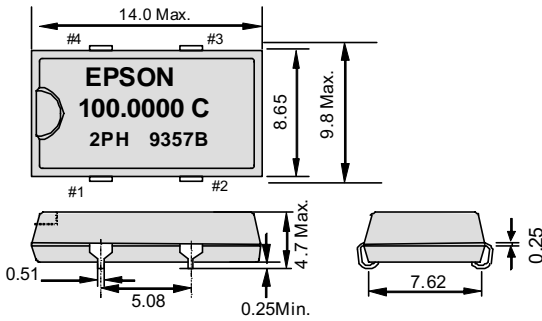
1	OE	<u>ST</u>
2	GND	
3	OUT	
4	Vcc	

0.01~0.1uF Vcc-GND

SG-8002JC SOJ 4pin 10.5x5.8x2.7 mm Package and pin compatible with SG-636.



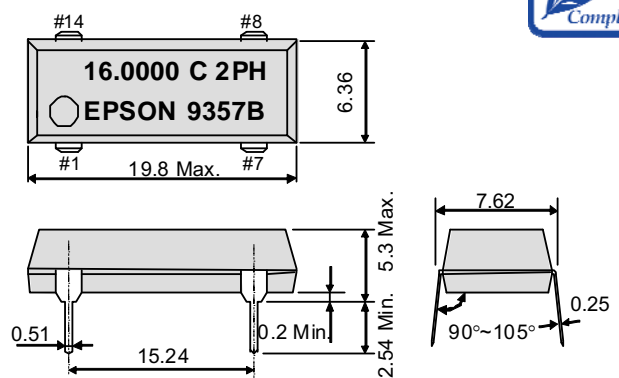
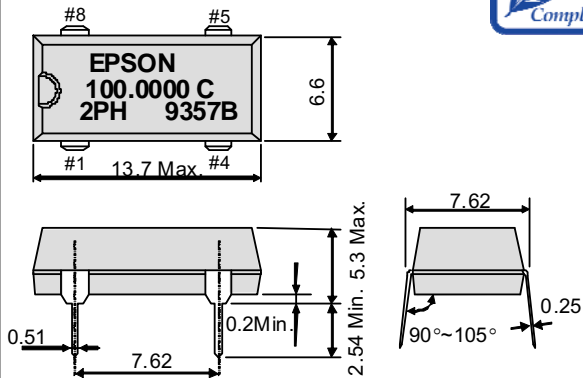
SG-8002JA SOJ 4pin 14.0x9.8x4.7 mm Package and pin compatible with SG-615.



SG-8002DC DIP half size



SG-8002DB DIP full size



OE (PT, PH, PC)
 OE = H
 OE = L
 ST (ST, SH, SC)
 ST = H
 ST = L

1	OE	ST
2	GND	
3	OUT	
4	Vcc	

: SG-8002DC

1	OE	ST
4	GND	
5	OUT	
8	Vcc	

: SG-8002DB

1	OE	ST
7	GND	
8	OUT	
14	Vcc	

Vcc-GND

0.01~0.1uF

SG-8002CE: Q3321CExxxxx00
 SG-8002LB: Q3323LBxxxxx00
 SG-8002CA: Q3309CAx0xxxx00
 SG-8002JF: Q3308JFx2xxxx00

SG-8002JC: Q3307JCx2xxxx00
 SG-8002JA: Q3306JAx2xxxx00
 SG-8002DC: Q3204DCx2xxxx00
 SG-8002DB: Q3203DBx2xxxx00

SG-8002

SG-8002CE	PT/ST	4.5 V ~ 5.5 V	-20 °C ~ +70 °C	5TTL+15pF	40 % ~ 60 % (1.4 V, L_TTL=5 TTL+15 pF, f0≤125 MHz)	2.0 ns Max.	(0.8 V ~ 2.0 V, L_TTL=Max.)
			-40 °C ~ +85 °C		45 % ~ 55 % (1.4 V, L_TTL=5 TTL+15 pF, f0≤66.7 MHz)	4.0 ns Max.	(0.4 V ~ 2.4 V, L_TTL=Max.)
	PH/SH	-20 °C ~ +70 °C	15 pF (f0≤125 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)	
-40 °C ~ +85 °C			25 pF (f0≤27 MHz)	45 % ~ 55 % (50 % VCC, L_CMOS=25 pF, f0≤27.0 MHz)			
PC/SC	-40 °C ~ +85 °C	3.0 V ~ 3.6 V	15 pF	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)	
			2.7 V ~ 3.6 V		45 % ~ 55 % (50 % VCC, L_CMOS=15 pF, f0≤40 MHz)		
SG-8002LB	PH/SH	4.5 V ~ 5.5 V	-20 °C ~ +70 °C	15 pF (f0≤50 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤80 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)
			-40 °C ~ +85 °C	25 pF (f0≤50 MHz)	45 % ~ 55 % (50 % VCC, L_CMOS=25 pF, f0≤50 MHz)		
PC/SC	-40 °C ~ +85 °C	3.0 V ~ 3.6 V	15 pF	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)	
			2.7 V ~ 3.6 V		45 % ~ 55 % (50 % VCC, L_CMOS=15 pF, f0≤40 MHz)		
SG-8002JF	PT/ST	4.5 V ~ 5.5 V	-20 °C ~ +70 °C	5TTL+15 pF (f0≤90 MHz)	40 % ~ 60 % (1.4 V, L_TTL=5 TTL+15 pF, f0≤90 MHz)	2.0 ns Max.	(0.8 V ~ 2.0 V, L_CMOS≤25pF)
			-40 °C ~ +85 °C	15 pF (f0≤125 MHz)	↑	4.0 ns Max.	(0.4 V ~ 2.4 V, L_CMOS or L_TTL=Max.)
	PH/SH	-20 °C ~ +70 °C	15 pF (f0≤125 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)			
-40 °C ~ +85 °C			25 pF (f0≤90 MHz)	↑			
PC/SC	-40 °C ~ +85 °C	3.0 V ~ 3.6 V	15 pF (f0≤40 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤40 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS≤25pF)	
			2.7 V ~ 3.6 V		45 % ~ 55 % (50 % VCC, L_CMOS=25 pF, f0≤66.7 MHz)	4.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)
SG-8002CA	PT/ST	4.5 V ~ 5.5 V	-20 °C ~ +70 °C	5TTL+15pF (f0≤125 MHz)	40 % ~ 60 % (1.4 V, L_TTL=5 TTL+15 pF, f0≤125 MHz)	2.0 ns Max.	(0.8 V ~ 2.0 V, L_CMOS or L_TTL=Max.)
			-40 °C ~ +85 °C	5 TTL+15 pF (f0≤40 MHz)	↑	4.0 ns Max.	(0.4 V ~ 2.4 V, L_CMOS or L_TTL=Max.)
	PH/SH	-20 °C ~ +70 °C	25 pF (f0≤125 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=25 pF, f0≤125 MHz)			
-40 °C ~ +85 °C			50 pF (f0≤66.7 MHz)	↑			
PC/SC	-40 °C ~ +85 °C	3.0 V ~ 3.6 V	15 pF (f0≤55 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤55.0 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS≤25pF)	
			2.7 V ~ 3.6 V		45 % ~ 55 % (50 % VCC, L_CMOS=25 pF, f0≤66.7 MHz)	4.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)
SG-8002JA	PT/ST	4.5 V ~ 5.5 V	-20 °C ~ +70 °C	25 pF (f0≤125 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=25 pF, f0≤125 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS≤25pF)
			-40 °C ~ +85 °C	50 pF (f0≤66.7 MHz)	↑	4.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)
	PH/SH	-20 °C ~ +70 °C	15 pF (f0≤55 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤55.0 MHz)			
-40 °C ~ +85 °C			25 pF (f0≤40 MHz)	↑			
PC/SC	-40 °C ~ +85 °C	3.0 V ~ 3.6 V	15 pF (f0≤40 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS≤15pF)	
			2.7 V ~ 3.6 V		45 % ~ 55 % (50 % VCC, L_CMOS=30 pF, f0≤40 MHz)	4.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)
SG-8002JC	PT/ST	4.5 V ~ 5.5 V	-20 °C ~ +70 °C	5TTL+15 pF (f0≤90 MHz)	40 % ~ 60 % (1.4 V, L_CMOS=15 pF, f0≤125 MHz)	2.0 ns Max.	(0.8 V ~ 2.0 V, L_CMOS or L_TTL=Max.)
			-40 °C ~ +85 °C	15 pF (f0≤125 MHz)	↑	4.0 ns Max.	(0.4 V ~ 2.4 V, L_CMOS or L_TTL=Max.)
	PH/SH	-20 °C ~ +70 °C	15 pF (f0≤125 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)			
-40 °C ~ +85 °C			25 pF (f0≤90 MHz)	↑			
PC/SC	-20 °C ~ +70 °C	3.0 V ~ 3.6 V	15 pF (f0≤40 MHz)	40 % ~ 60 % (50 % VCC, L_CMOS=15 pF, f0≤125 MHz)	3.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS≤15pF)	
			2.7 V ~ 3.6 V		45 % ~ 55 % (50 % VCC, L_CMOS=30 pF, f0≤40 MHz)	4.0 ns Max.	(20 % VCC ~ 80 % VCC, L_CMOS=Max.)

SG-8002 CE 125.000000MHz S C C

(P: , S:)

T,H	5.0 V Typ.
C	3.0 / 3.3 V Typ.

B	±50 × 10 ⁻⁶ / -20 ~ +70°C
C	±100 × 10 ⁻⁶ / -20 ~ +70°C
L	±50 × 10 ⁻⁶ / -40 ~ +85°C
M	±100 × 10 ⁻⁶ / -40 ~ +85°C

SG-8002CE	PT/ ST PH/ SH	4.5 V ~ 5.5 V	1.0 MHz ~ 125 MHz	B,C	
			1.0 MHz ~ 27 MHz	M	
	PC/SC	3.0 V ~ 3.6 V	1.0 MHz ~ 125 MHz	B,C,M	
2.7 V ~ 3.6 V			1.0 MHz ~ 66.7 MHz		
SG-8002LB	PH/ SH	4.5 V ~ 5.5 V	1.0 MHz ~ 80 MHz	B,C	
			1.0 MHz ~ 27 MHz	M,L	
	PC/ SC	3.0 V ~ 3.6 V	1.0 MHz ~ 125 MHz	B,C,M,L	
2.7 V ~ 3.6 V			1.0 MHz ~ 66.7 MHz		
SG-8002JF	PT/ ST PH/ SH	4.5 V ~ 5.5 V	1.0 MHz ~ 125 MHz	B,C	
			1.0 MHz ~ 40 MHz	M	
	PC/ SC	3.0 V ~ 3.6 V	1.0 MHz ~ 125 MHz	B,C,M	
2.7 V ~ 3.6 V			1.0 MHz ~ 66.7 MHz		
SG-8002CA SG-8002JA SG-8002DB SG-8002DC	PT/ ST PH/ SH	4.5 V ~ 5.5 V	1.0 MHz ~ 125 MHz	B,C	
			1.0 MHz ~ 55 MHz	M	
	PC/ SC	3.0 V ~ 3.6 V	1.0 MHz ~ 125 MHz	B,C,M	
2.7 V ~ 3.6 V			1.0 MHz ~ 66.7 MHz		
SG-8002JC	PT/ ST PH/ SH	4.5 V ~ 5.5 V	1.0 MHz ~ 125 MHz	B,C	
			1.0 MHz ~ 125 MHz	B,C	
	PC/ SC	3.0 V ~ 3.6 V	1.0 MHz ~ 125 MHz	B,C	
2.7 V ~ 3.6 V			1.0 MHz ~ 66.7 MHz		

SG-8002

■PLL-PLL

PLL

SG-8002

PLL

250 ps/CL=15 pF

PT / PH ST / SH	5.0 V ±0.5 V	Cycle to cycle	150 ps Max. 200 ps Max.	33 MHz ≤ f ₀ ≤ 125 MHz, L_CMOS=15 pF 1.0 MHz ≤ f ₀ < 33 MHz, L_CMOS=15 pF
		Peak to peak	200 ps Max. 250 ps Max.	33 MHz ≤ f ₀ ≤ 125 MHz, L_CMOS=15 pF 1.0 MHz ≤ f ₀ < 33 MHz, L_CMOS=15 pF
SC / PC	3.3 V ±0.3 V	Cycle to cycle	200 ps Max.	1.0 MHz ≤ f ₀ ≤ 125 MHz, L_CMOS=15 pF
		Peak to peak	250 ps Max.	1.0 MHz ≤ f ₀ ≤ 125 MHz, L_CMOS=15 pF

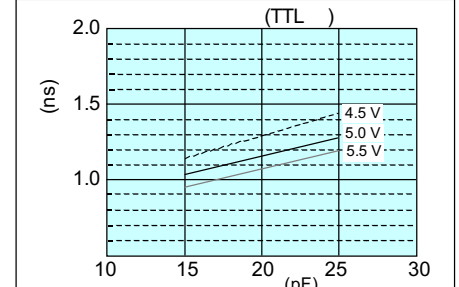
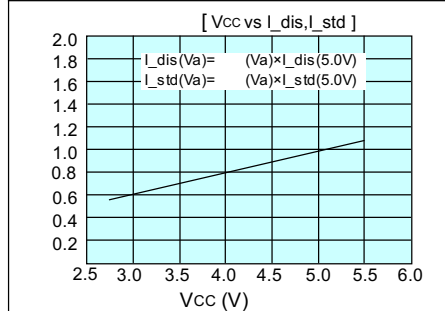
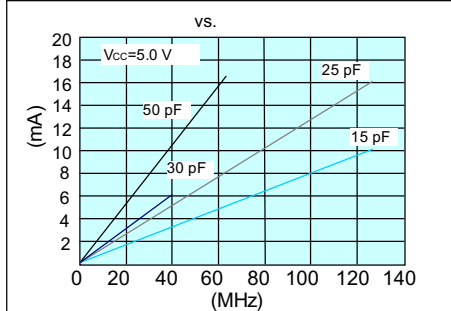
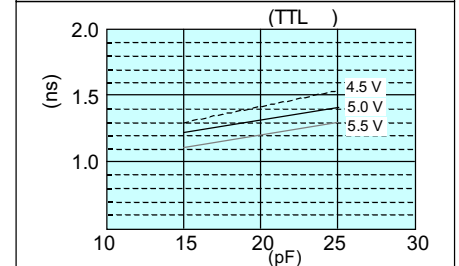
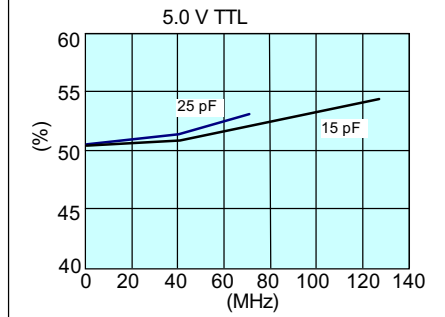
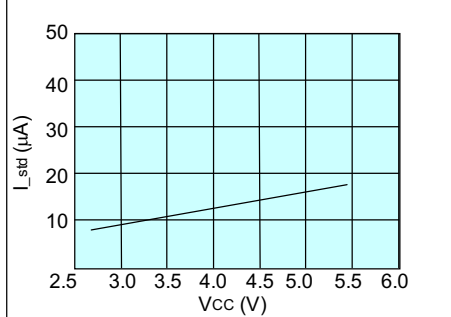
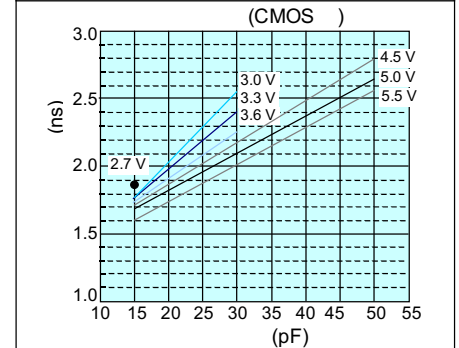
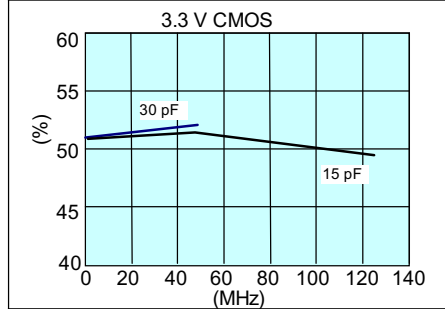
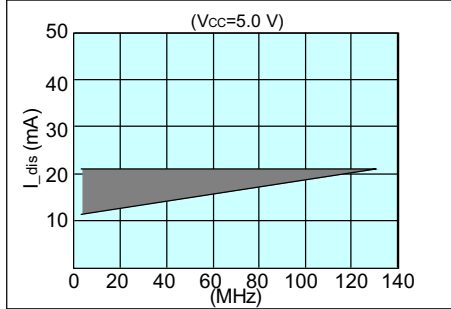
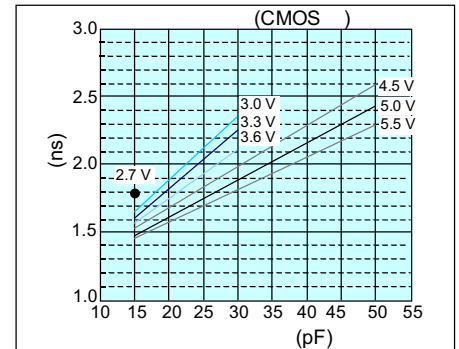
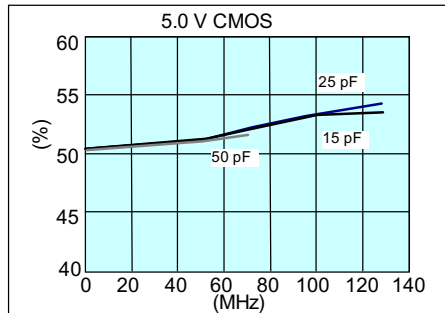
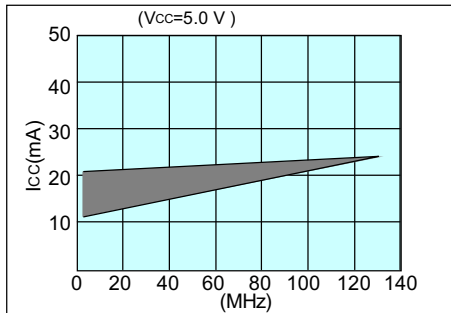
EMI

0 % V_{CC}

90 % V_{CC}

150 μs

■SG-8002



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业务 : 陈经理 QQ:1626381662 直线 : 025-84712762

陈小姐 QQ:1765364340 直线 : 025-84712745

样品/小批量 : 董先生 QQ:2642196949 直线 : 025-84710496

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ISO 14000

Seiko Epson
ISO 9000
ISO 9001
16949

ISO/TS

ISO/TS16949 , ISO9001

	
	RoHS RoHS
	
	

Seiko Epson	Seiko Epson
1.	2.
4.	5.
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