

The ECX-53B is a miniature SMD Crystal with a 3.2 x 5 mm footprint. This package is ideal for today's compact wireless applications where board space is critical.

[Request a Sample](#)

ECX-53B SMD CRYSTAL



- Compact and low profile
- Industry Standard Footprint
- Extended Temp. Range Option
- RoHS Compliant

DIMENSIONS (mm)



Figure 1) Top, Side, and Bottom

Crystal is symmetrical, pad 1 & 3 are interchangeable. Chamfer on the bottom pad has no electrical significance.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECX-53B			UNITS
		MIN	TYP	MAX	
Frequency		8.000		50.000	MHz
Mode of Oscillation	Fundamental				
Frequency Tolerance*	@ +25°C			± 30	ppm
Frequency Stability*	-20 ~ +70°C			± 50	ppm
Shunt Capacitance	Co			5	pF
Load Capacitance	Specify in P/N	8	20	Series	pF
Drive Level	DL			100	μW
Operating Temperature*	T _{opr}	-20		+70	°C
Storage Temperature	T _{stg}	-55		+125	°C
Aging (First Year)	@ +25°C ±3°C			±5	ppm

Frequency (MHz)	ESR Ω Max.
8.000 ~ 9.999	100
10.000 ~ 15.999	80
16.000 ~ 19.999	50
20.000 ~ 23.999	40
24.000 ~ 50.000	30

Pad Connections

1	In/Out
2	Gnd
3	Out/In
4	Gnd



Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-20-30B-TR

ECS - FREQUENCY ABBREVIATION	LOAD CAPACITANCE	PACKAGE	AVAILABLE OPTIONS			PACKAGING	
			Tolerance	Stability	Temp Range		
ECS	200 = 20.000 MHz See P/N Guide	20 = 20 pF S = Series	30B = ECX-53B	Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm	Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm † W = ± 15 ppm † K = ± 10 ppm †	Blank = Std L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C	TR = Tape & Reel 1K/Reel

* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

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POCKET TAPE DIMENSIONS (mm)



SOLDER PROFILE	
Peak solder Temp +260°C Max 10 sec Max.	
2 Cycles Max.	
MSL 1, Lead Finish Au	

DEVELOPED FREQUENCIES	
Abbreviation	Frequency (MHZ)
080	8.000
100	10.000
120	12.000
122.8	12.288
160	16.000
200	20.000
240	24.000
245.7	24.576
250	25.000
270	27.000
300	30.000
360	36.000
500	50.000



Figure 1) Suggested Reflow Profile

Mouser Electronics

Authorized Distributor

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ECS:

[ECS-100-20-30B-TR](#) [ECS-300-20-30B-TR](#) [ECS-320-S-30B-TR](#) [ECS-400-S-30B-TR](#) [ECS-500-S-30B-TR](#) [ECS-120-20-30B-TR](#) [ECS-143-20-30B-TR](#) [ECS-160-20-30B-TR](#) [ECS-200-20-30B-TR](#) [ECS-240-20-30B-TR](#) [ECS-245-20-30B-TR](#) [ECS-250-20-30B-TR](#) [ECS-270-20-30B-TR](#) [ECS-270-S-30B-TR](#) [ECS-300-S-30B-TR](#) [ECS-320-20-30B-TR](#) [ECS-360-20-30B-TR](#) [ECS-360-S-30B-TR](#) [ECS-400-20-30B-TR](#) [ECS-500-20-30B-TR](#) [ECS-100-8-30B-CKM](#) [ECS-120-8-30B-CKM](#) [ECS-130-8-30B-CKM](#) [ECS-135.6-8-30B-CKM](#) [ECS-160-8-30B-CKM](#) [ECS-192-8-30B-CKM](#) [ECS-200-8-30B-CKM](#) [ECS-240-8-30B-CKM](#) [ECS-250-8-30B-CKM](#) [ECS-260-8-30B-CKM](#) [ECS-300-8-30B-CKM](#) [ECS-320-8-30B-CKM](#) [ECS-120-18-30B-JEM-TR](#) [ECS-160-10-30B-CKL-TR](#) [ECS-100-10-30B-CKL-TR](#) [ECS-80-18-30B-JEM-TR](#) [ECS-160-20-30B-AGL-TR](#) [ECS-160-10-30B-CKM-TR](#) [ECS-200-18-30B-JEM-TR](#) [ECS-240-20-30B-AGL-TR](#) [ECS-480-10-30B-CKL-TR](#) [ECS-192-13-30B-AEM-TR](#) [ECS-160-18-30B-AGN-TR](#) [ECS-120-8-30B-RWY-TR](#) [ECS-200-20-30B-AEN-TR](#) [ECS-120-18-30B-AGN-TR](#) [ECS-200-10-30B-CKM-TR](#) [ECS-192-18-30B-AGM-TR](#) [ECS-300-18-30B-AGN-TR](#) [ECS-120-20-30B-AGL-TR](#) [ECS-135.60-10-30B-CKM-TR](#) [ECS-320-18-30B-AGN-TR](#) [ECS-184-18-30B-AGN-TR](#) [ECS-163.84-18-30B-AGN-TR](#) [ECS-160-20-30B-AEM-TR](#) [ECS-250-20-30B-AGL-TR](#) [ECS-153.6-10-30B-CKM-TR](#) [ECS-320-18-30B-JEM-TR](#) [ECS-270-18-30B-JEM-TR](#) [ECS-250-10-30B-CKM-TR](#) [ECS-245.7-18-30B-JEM-TR](#) [ECS-120-13-30B-AEM-TR](#) [ECS-250-13-30B-AEM-TR](#) [ECS-240-18-30B-AGN-TR](#) [ECS-250-20-30B-AEN-TR](#) [ECS-240-13-30B-AEM-TR](#) [ECS-163.84-10-30B-CKM-TR](#) [ECS-120-12-30B-AGM-TR](#) [ECS-80-10-30B-CWN-TR](#) [ECS-250-18-30B-JTN-TR](#) [ECS-300-18-30B-JEM-TR](#) [ECS-320-10-30B-CKM-TR](#) [ECS-130-10-30B-CKM-TR](#) [ECS-270-10-30B-CKM-TR](#) [ECS-286.3-18-30B-AGM-TR](#) [ECS-294.912-10-30B-CKL-TR](#) [ECS-240-20-30B-AEN-TR](#) [ECS-200-18-30B-AGN-TR](#) [ECS-135.60-18-30B-AGN-TR](#) [ECS-147.4-18-30B-AGN-TR](#) [ECS-250-12-30B-AGM-TR](#) [ECS-169.344-10-30B-CKM-TR](#) [ECS-160-18-30B-AEN-TR](#) [ECS-110.5-18-30B-AGN-TR](#) [ECS-128-13-30B-AEM-TR](#) [ECS-160-18-30B-JEM-TR](#) [ECS-400-12-30B-AGM-TR](#) [ECS-480-18-30B-JEM-TR](#) [ECS-240-18-30B-CHN-TR](#) [ECS-250-18-30B-AKM-TR](#) [ECS-122.8-20-30B-AEM-TR](#) [ECS-153.6-18-30B-JEM-TR](#) [ECS-147.4-13-30B-AEM-TR](#) [ECS-300-10-30B-CKM-TR](#) [ECS-200-13-30B-AEM-TR](#) [ECS-271.2-10-30B-CKM-TR](#) [ECS-120-10-30B-CKM-TR](#) [ECS-480-18-30B-AGN-TR](#) [ECS-184-18-30B-JEM-TR](#) [ECS-128-15-30B-CTN-TR](#)