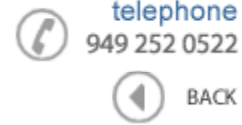





Data Sheet



Product Category: SMD Quartz Crystal

Series Number	Package	Description	Last Modified
278	3.2 x 2.5 mm Chip Type	SMD Quartz Crystal	Mar. 24, 2014

FEATURES

- 3.2 x 2.5mm Surface Mount Chip Type Quartz Crystal
- Compact and Thin (0.65mm profile)
- Heat and Shock Resistant
- Suitable applications include telecommuncations equipment, short-range radio link modules, DVC, DSC, PDA, and PC
- RoHS / Lead Free compliant 

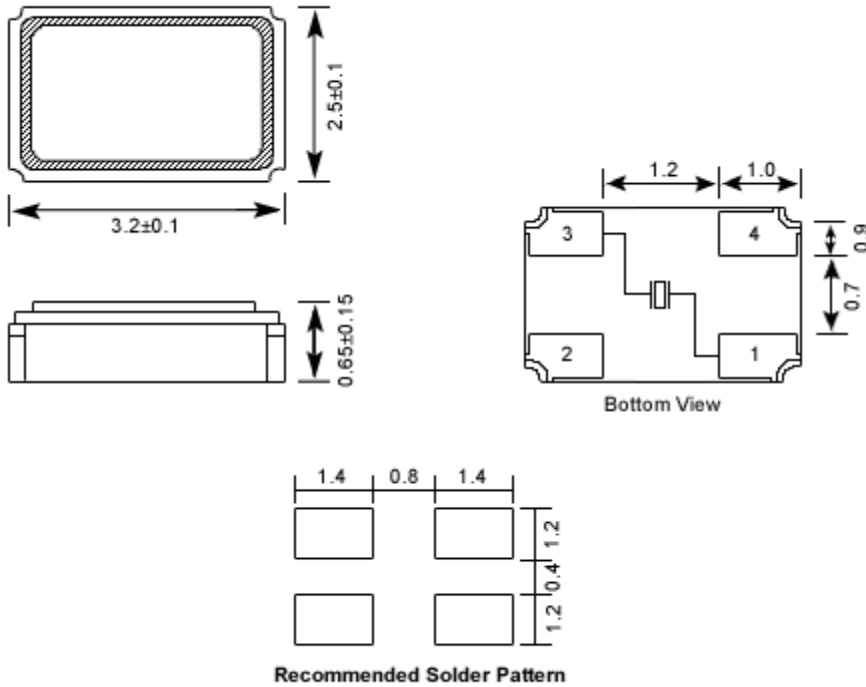
**OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**

PARAMETERS	SYMBOL	CONDITION	MINIMUM	TYPICAL	MAXIMUM	UNITS
Frequency Range	Fo	-	13	-	54	MHz
Frequency Tolerance	$\Delta F/Fo$	@ 25°C	± 10	-	± 30	ppm
Temperature Stability	Tc	REFTO25°C	± 10	-	± 30	ppm($\Delta^\circ C$)
Operating Temperature	TORP	-	-20	-	+70	°C
Storage Temperature	TSTG	-	-40	-	+85	°C
Shunt Capacitance	Co	-	-	-	3	pF
Load Capacitance	CL	-	8	-	30	pF
Insulation Resistance	IR	-	500	-	-	M Ω
Drive Level	DL	100VDC	10	100	300	μW
Aging	Fa	@25°C per year	-2.0	-	+2.0	Ppm

EQUIVALENT SERIES RESISTANCE (ESR) AND MODE OF VIBRATION (MODE)

PARAMETERS	MAX ESR (OHM)	MODE
13.000MHZ ~ 19.999MHZ	80	Fundamental
20.000MHZ ~ 25.999MHZ	70	Fundamental
26.000MHZ ~ 54.000MHZ	50	Fundamental

PACKAGE DIMENSIONS



PART NUMBER GUIDE

Example: 278-25.0M-20-W-TR

Series Number	Frequency	Load Capacitance	Tolerance @ +25°C	Frequency Stability Over Temp (°C)	Operating Temp (°C)	Packaging**
278	25.0M	09	15	K	S	TR
Oscilent 3.2 x 2.5 SMD	Enter desired frequency.	Enter desired capacitance here.	Blank * = ±30 PPM 10 = ±10 PPM 15 = ±15 PPM 20 = ±20 PPM 25 = ±25 PPM 50 = ±50 PPM Avail. = ±10 ~ ±30	Blank* = ±50 PPM G = ±30 PPM H = ±20 PPM K = ±15 PPM L = ±10 PPM N = ±5 PPM M = ±100 PPM Avail. = ±10 ~ ±30	P = 0~+50 R = -10~+60 S = -20~+70 T = -30~+80 W = -40~+85	Blank* = Bulk TR = Tape/Reel
<p>NOTE: Deviations on all parameters available. Please consult Oscilent for details. DEFINITIONS: Click on the characteristic names above for definitions of that particular characteristic. *STANDARDS: "Blank" part number selections indicate standard variables for that particular characteristic. **PACKAGING: Click on the packaging name above for tape/reel specifications</p>						

Oscilent Corporation - CALL **1.949.252.0522**

Series No.: 278

18226 McDermott Street . Building B . Irvine . CA 92614 . USA
 Fax: 1.949.252.0599 . E-Mail: Sales@Oscilent.com