



**Data Sheet**


telephone  
949 252 0522

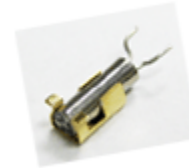
BACK

Product Category: SMD Quartz Crystal

Series Number	Package	Description	Last Modified
221 ~ 222	8.3x3.0, 6.3x1.95 Gull Wing Type	SMD Quartz Crystal	Nov. 17, 2011

**FEATURES**

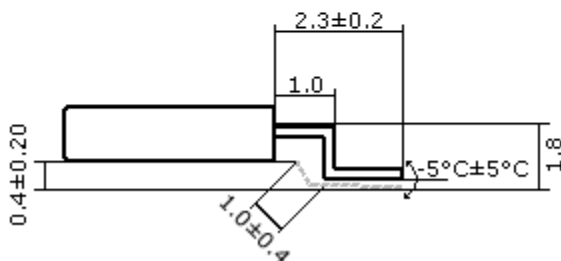
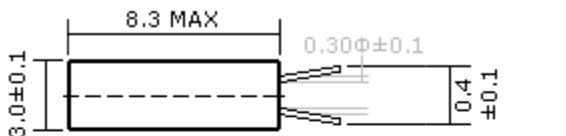
- 8.3x3.0, 6.3x1.95 gull wing type surface mount quartz crystal
- Small Size and Low Profile
- Pick and Place Assembly
- KHz Frequency Crystal
- RoHS with Exempt, 260°C 10'S reflow
- RoHS / Lead Free compliant 

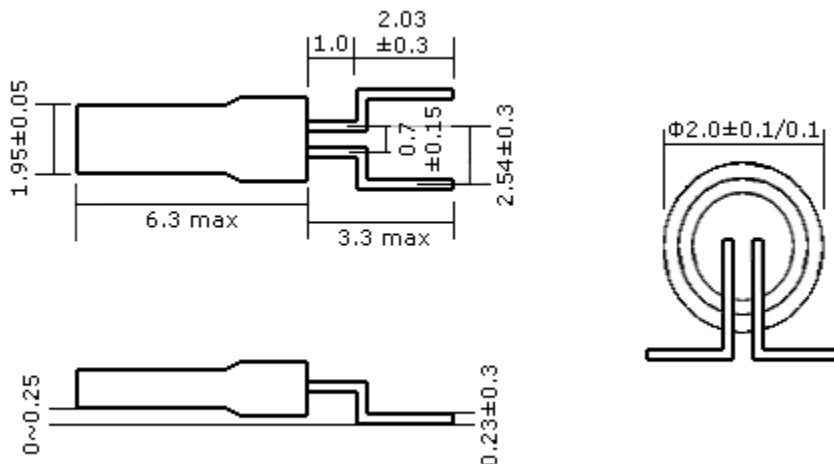


**OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**

PARAMETERS	SYMBOL	CONDITION	MINIMUM	TYPICAL	MAXIMUM	UNITS
Frequency Range	Fo	-	25	32.768	300	KHz
Frequency Tolerance	$\Delta F/Fo$	@ 25°C	±5	±20	±100	ppm
Temperature Coefficient	K	REFTO25°C	-	-	-0.042	ppm( $\Delta$ °C)
Operating Temperature	TORP	-	-40	-	+85	°C
Storage Temperature	TSTG	-	-40	-	+85	°C
Shunt Capacitance	Co	-	-	0.85	2.0	pF
Motional Capacitance	C1	-	-	2	4	fF
Load Capacitance	CL	-	6	12.5	Series	pF
Insulation Resistance	IR	100VDC	500	-	-	M
Drive Level	DL	-	-	-	1	μW
Aging (First Year)	Fa	@25°C±30°C	-5.0	-	+5.0	Ppm
Equivalent Series Resistance (ESR)	RS	221	-	-	35	KΩ
		222	-	-	40	KΩ
Soldering Condition	TSOL	-	Twice at under 240°C within 10sec/reflow time within 3 minutes			

**PACKAGE DIMENSIONS**



**PACKAGE DIMENSIONS****PART NUMBER GUIDE**

Example: 221-32.768M-SR-20-W-TR

(All fields separated by a dash "-")

Series Number	Frequency	Load Capacitance	Tolerance @ +25°C	Operating Temp (°C)	Packaging**
<b>221</b>	<b>32.768K</b>	<b>SR</b>	<b>20</b>	<b>W</b>	<b>TR</b>
Oscilent 8.3 x 3 SMD	Enter desired frequency. Avail. = 25 ~ 300KHz	Enter desired capacitance here. Avail. = 6 ~ 12.5pF * SR for series	Blank * = ±30 PPM 10 = ±10 PPM 15 = ±15 PPM 20 = ±20 PPM 25 = ±25 PPM 50 = ±50 PPM <b>Avail. = ±5 ~ ±100</b>	P = 0~+50 R = -10~+60 S = -20~+70 T = -30~+80 W = -40~+85	Blank* = Bulk TR = Tape/Reel
<b>222</b>	<b>32.768K</b>	<b>SR</b>	<b>20</b>	<b>W</b>	<b>TR</b>
Oscilent 6.3 x 1.95 SMD	Enter desired frequency. Avail. = 25 ~ 300KHz	Enter desired capacitance here. Avail. = 6 ~ 12.5pF * SR for series	Blank * = ±30 PPM 10 = ±10 PPM 15 = ±15 PPM 20 = ±20 PPM 25 = ±25 PPM 50 = ±50 PPM <b>Avail. = ±5 ~ ±100</b>	P = 0~+50 R = -10~+60 S = -20~+70 T = -30~+80 W = -40~+85	Blank* = Bulk TR = Tape/Reel
<p><b>NOTE:</b> Deviations on all parameters available. Please consult Oscilent for details.</p> <p><b>DEFINITIONS:</b> Click on the characteristic names above for definitions of that particular characteristic.</p> <p><b>*STANDARDS:</b> "Blank" part number selections indicate standard variables for that particular characteristic.</p> <p><b>**PACKAGING:</b> Click on the packaging name above for tape/reel specifications</p>					

**Oscilent Corporation** - CALL **1.949.252.0522**Series No.: **221 ~ 222**

18226 McDermott Street , Building B , Irvine , CA 92614 , USA

Fax: 1.949.252.0599 , E-Mail: Sales@Oscilent.com