

The DS2151 and DS2153 require a crystal that can be pulled off its center frequency. Specifications for selecting the appropriate crystal in a T1 or E1 application are given in Table 1. A list of manufacturers is in Table 2. The part numbers given are for leaded packages. Surface mount devices typically do not meet the pullability specification. Some of the following manufacturers may offer Surface Mountable Packages in which the leads have been preformed (gull-winged) with a clip added to provide a third contact point.

DS2151 AND DS2153 CRYSTAL SPECIFICATIONS Table 1

PARAMETER	SPECIFICATION
Parallel Resonant Frequency	6.176 (T1), 8.192 (E1)
Mode	Fundamental
Load Capacitance	18 pF to 20 pF
Tolerance	± 50 ppm
Pull-ability	CL = 10 pF, $\Delta f = + 175$ to $+250$ ppm CL = 45 pF, $\Delta f = + 175$ to -250 ppm
Effective Series Resistance	35 Ω max
Crystal Cut	AT

RECOMMENDED CRYSTAL MANUFACTURERS Table 2

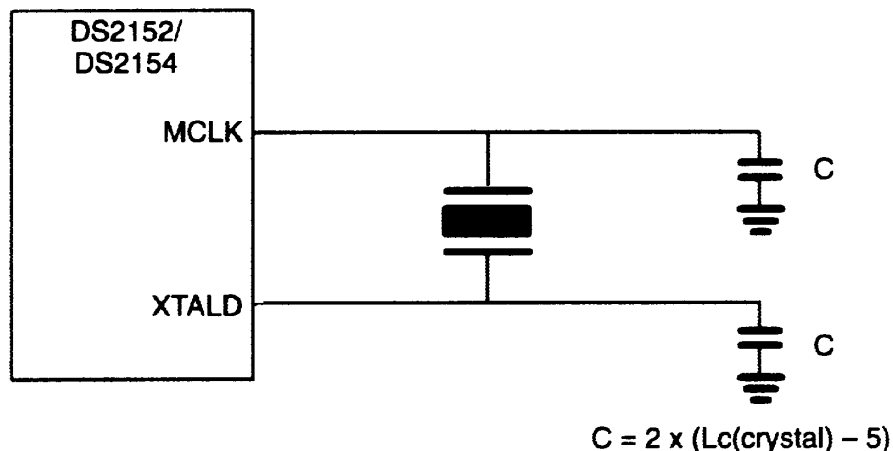
MANUFACTURER	ADDRESS	PART NUMBER
M-TRON	100 DOUGLAS AV. P.O. BOX 630 YANKTON, SD 57078-0630 PH: (605) 665-9321 FAX: (605) 665-1709	<u>COMMERCIAL TEMP RANGE</u> (T1, 6.176 MHz) 4575-032 (E1, 8.192 MHz) 4575-031 <u>INDUSTRIAL TEMP RANGE</u> (T1, 6.176 MHz) 4144-002 (E1, 8.192 MHz) 4144-001 NOTE: Do not use MP-1 Prefix
RALTRON	2315 N.W. 107 th AV. MIAMI, FL 33172 PH: (305) 593-6033 FAX: (305) 594-3973	<u>COMMERCIAL TEMP RANGE</u> (T1, 6.176 MHz) A-6.176-18.5-DS (E1, 8.192 MHz) A-8.192-18.5-DS <u>INDUSTRIAL TEMP RANGE</u> (T1, 6.176 MHz) A-6.176-18.5-DSE (E1, 8.192 MHz) A-8, 192-18.5-DSE
SUNNY-EMI CO. SUNTRAC (DIST)	11925 VENTURA BLVD. STUDIO CITY, CA 91604 PH: (818) 509-8985	<u>INDUSTRIAL TEMP RANGE</u> (T1, 6.176 MHz) SE 061-32 (E1, 8.192 MHz) SE 081-30

MANUFACTURER	ADDRESS	PART NUMBER
JAN	2341 Crystal DR. P.O. BOX 6017 FORT MYERS, FL 33906-6017 PH: (941) 936-2297 FAX: (941) 936-3750	<u>COMMERCIAL TEMP RANGE</u> (T1, 6.176 MHz) JC6B18 (E1, 8.192 MHz) JC8B18
Ecliptek	3545 CADILLAC AV COSTA MESA, CA 92626-1401 PH: (714) 433-1200	<u>COMMERCIAL TEMP RANGE</u> (T1, 6.176 MHz) ECX-4173-6.176M (E1, 8.192 MHz) ECX-3876-8.192M
Saronix	STRATEGIC MARKETING, INC 624 W. UNIVERSITY SUITE 265 DENTON, TX 76201	<u>COMMERCIAL TEMP RANGE</u> (T1, 6.176 MHz) SRX5310(L) (E1, 8.192 MHz) SRX5469(L)

The DS2152 and DS2154 do not require a crystal for most applications. Typically, MCLK is driven by a 1x clock derived from the system or supplied by an oscillator. In an application which derives ALL timing from the network (loop timed) then a crystal may be connected to MCLK and XTALD as shown in Figure 1. There is no pull-ability requirement for this crystal.

Specifications for selecting the appropriate crystal in a T1 or E1 application are given in Table 3. A list of crystal manufacturers are in Table 4. A list of oscillator manufacturers are in Table 5.

CRYSTAL CONNECTION Figure 1



CRYSTAL SPECIFICATIONS Table 3

PARAMETER	SPECIFICATION
Parallel Resonant Frequency	1.544 MHz (T1), 2.048 MHz (E1)
Mode	Fundamental
Load Capacitance	See Figure 1
Tolerance	± 50 ppm
Crystal Cut	AT

RECOMMENDED CRYSTAL MANUFACTURERS Table 4

MANUFACTURER	ADDRESS	PART NUMBER
RALTRON	2315 N.W. 107 th AV. MIAMI, FL 33172 PH: (305) 593-6033 FAX: (305) 594-3973	<u>COMMERCIAL TEMP RANGE</u> (T1, 1.544 MHz) B-1.544-20 (E1, 2.048 MHz) A-2.048-20 Raltron can provide a surface mountable device by performing the leads and adding a clip to the case for stabilization.

Dallas Semiconductor has qualified a sample of each device from the above manufactures and have found that the device meets or exceeds our specifications. We do not conduct an on going qualification of these manufactures.

OSCILLATOR MANUFACTURERS Table 5

MANUFACTURER	ADDRESS	PART NUMBER
SARONIX	141 Jefferson Drive MENLO PARK, CA 94025-1114 PH: (640) 470-7700 or 1-800-227-8974	5 volt 8 pin dip SCS-DS-1046 1.544 MHz SCS-DS-1047 2.048 MHz
		3 volt 8 pin dip SCS-DS-1048 1.544 MHz SCS-DS-1049 2.048 MHz