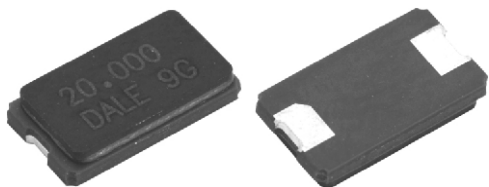


Surface Mount Crystal



FEATURES

- Miniature size: 8.0 x 4.5 x 1.8 (mm)
- Wide frequency range
- Glass sealing
- Emboss tapping
- Compliant to RoHS directive 2002/95/EC


RoHS
COMPLIANT

The XT36C part is a miniature SMD crystal with 8.0 x 4.5 ceramic package and a height of 1.8 mm maximum. It is widely applied in notebook computer, PCMCIA, and communication equipment.

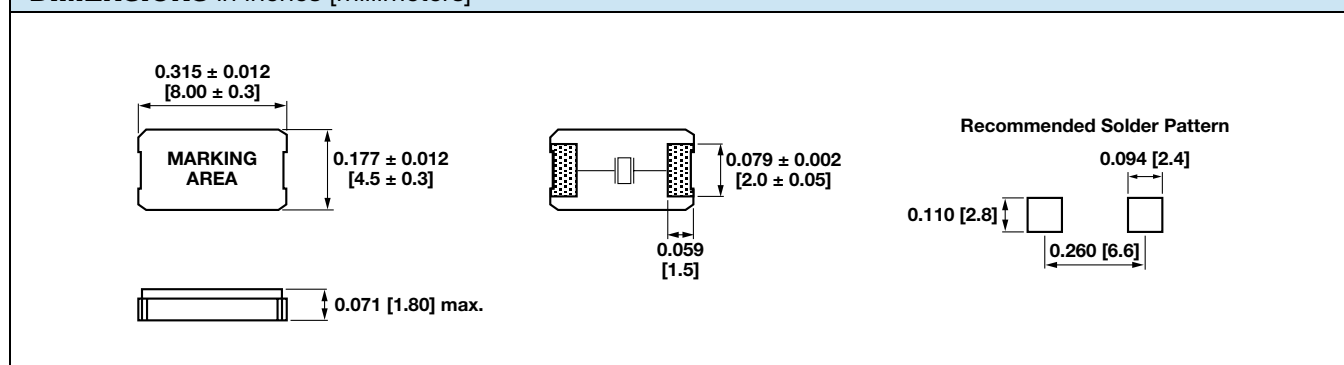
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	UNIT	MIN.	TYP.	MAX.
Frequency range	F_O		MHz	10.000	-	70.000
Frequency tolerance	$\Delta F/F_O$	at 25 °C	ppm	-	± 50	-
Temperature stability	T_C	ref. to 25 °C	ppm	-	± 50	-
Operating temperature range	T_{OPR}		°C	- 10	-	+ 60
Storage temperature range	T_{STG}		°C	- 55	-	+ 125
Shunt capacitance	C_0		pF	-	-	7
Load capacitance	C_L	customer specified	pF	10	-	series
Insulation resistance	I_R	100 V _{DC}	M Ω	500	-	-
Drive level	D_L		μ W	-	10	500
Aging	F_a	at 25 °C, per year	ppm	- 5	-	+ 5

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

FREQUENCY RANGE (MHz)	MAX. ESR (Ω)	MODE	FREQUENCY RANGE (MHz)	MAX. ESR (Ω)	MODE
10.000 to 10.999	110	fundamental	20.000 to 31.999	25	fundamental
11.000 to 14.099	50	fundamental	32.000 to 47.999	110	3 rd overtone
14.100 to 17.999	45	fundamental	48.000 to 70.000	100	3 rd overtone
18.000 to 19.999	30	fundamental			

DIMENSIONS in inches [millimeters]



ORDERING INFORMATION

XT36C	-20	24M	e4
MODEL	LOAD blank = series -12 = 12 pF -16 = 16 pF -20 = 20 pF -32 = 32 pF	FREQUENCY/MHz	JEDEC LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

X	T	3	6	2	0	A	2	4	M
MODEL				LOAD		PACKAGE CODE	FREQUENCY		

GLOBAL PART NUMBERING

X	T	9	S	2	0	A	N	A	4	0	M
MODEL NUMBER				LOAD CAPACITANCE		PACKAGE CODE	OPTIONS		FREQUENCY		
XT9S = XT49S XT9M = XT49M XTU1 = XTUM1				18 = 18 pF 20 = 20 pF NL = series to be specified by customer		Tape and reel G = RF5 (XT9S) H = RF7 (XT9M) Bulk A = B04 (all models)	NA = no additional options RR = extended temperature of - 40 °C to + 85 °C Contact factory for all other options		4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency		
Example: XT49S-20 40M											
X	T	3	6	2	0	A			1	2	M
MODEL NUMBER				LOAD CAPACITANCE		PACKAGE CODE	FREQUENCY				
XT46 = XT46C XT36 = XT36C				18 = 18 pF 20 = 20 pF NL = series to be specified by customer		Tape and reel H = RF7 Bulk A = B04 (all models)	4M = 4 MHz 40M = 40 MHz 100M = 100 MHz 12M288 = 12.288 MHz M is used as decimal place holder in frequency				
Example: XT36C-20 12M											



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.