



**THE DATASHEET OF**  
**445I35E08M00000**



**ELECTRICAL CHARACTERISTICS**

PARAMETER		VALUE		
ELECTRICAL PARAMETERS	Frequency Range	8MHz to 50MHz		
	Operating Mode	Fundamental		
	Crystal Cut	AT-Cut		
	Frequency Tolerance @ +25°C	±20ppm, ±30ppm		
	Frequency Stability Tolerance [Operating Temperature Range, Referenced to 25°C Reading]	±10ppm, ±15ppm, ±20ppm, ±30ppm, ±50ppm		
	Operating Temperature Ranges	0°C to +50°C	-10°C to +60°C	
		-20°C to +70°C	-40°C to +85°C	
	Equivalent Series Resistance [Maximum]	8MHz - <12MHz	100 Ohms	
		12MHz - <16MHz	50 Ohms	
		16MHz - <30MHz	40 Ohms	
		30MHz - <50MHz	30 Ohms	
	Load Capacitance or Resonance Mode	See Ordering Information		
Shunt Capacitance [C <sub>0</sub> ]	5.0pF Typical, 7.0pF Maximum			
Drive Level	10µW Min., 100µW Typ., 300µW Max.			
Aging @ +25°C	±3ppm/yr Typical			
Storage Temperature Range	-40°C to +85°C			

**MECHANICAL SPECIFICATIONS**

**PACKAGE DRAWING**



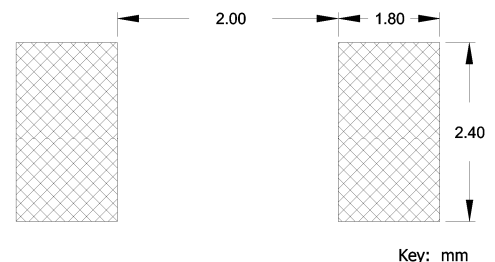
**MARKING INFORMATION**

1. M445 - CTS Model Series.
2. C - CTS.
3. D - Date code. See Table I for codes.
4. XXX - Frequency code.  
Reference CTS document 016-1454-0.

**NOTES**

1. Complete CTS part number, frequency value, date code and manufacturing site code information must appear on reel and carton labels.
2. JEDEC termination code (e4). Barrier plating is nickel [Ni] with gold [Au] flash plate.
3. Reflow conditions per JEDEC J-STD-020; 260°C maximum, 10 seconds.
4. MSL - 1.

**SUGGESTED SOLDER PAD GEOMETRY**



**TABLE I - DATE CODE**

YEAR		MONTH														
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
2001	2005	2009	2013	2017	A	B	C	D	E	F	G	H	J	K	L	M
2002	2006	2010	2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2003	2007	2011	2015	2019	a	b	c	d	e	f	g	h	j	k	l	m
2004	2008	2012	2016	2020	n	p	q	r	s	t	u	v	w	x	y	z

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