

MAIN FEATURE

- 32.768KHz High Precision & Reliability • Low Cost

APPLICATION

- Clock/Watch and more

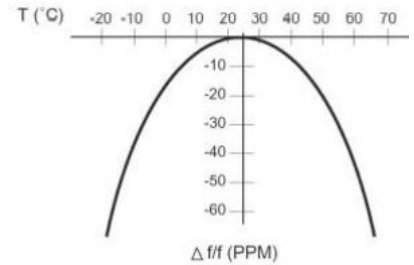
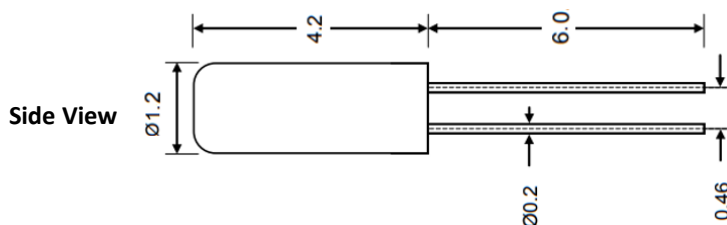


Ø1.2*H4.2mm

STANDARD SPECIFICATION

Parameter	Value			Unit	Condition
	Min.	Type	Max.		
Frequency Range		32.768		KHz	
Oscillation Mode	AT Fund.				
Frequency Tolerance	-	±20		ppm	@25 °C or Specify
Operating Temperature Range	-20	-	+70	°C	CL: 7.0pF, 9.0pF or Specify Wide Operating Temp. range See Part number Guide for option
Storage Temperature Range	-40	-	+85	°C	
Load Capacitance (CL)	-	12.5	-	pF	
Frequency/Temp Coefficient	0.031	0.036	0.041	ppm/C ²	
Turnover Temp	+20	+25	+30	°C	
Equivalent Series Resistance		-	60	Kohm	
Drive Level	-	-	1.0	µW	
Shunt Capacitance			2.0	pF	
Dynamic Capacitance	-	0.0030	-	Ff	
Quality Factor		60000			
Capacitance Ratio	-	450	-		
Aging per year	-	±5	-	ppm/year	
Insulation Resistance	500	-	-	Mohm	@ 100Vdc ± 15V

DIMENSION (+/-0.1mm)



Temperature Coefficient

PART NUMBER GUIDE

Example: TGS CCE 32K768A20-12.5-20-60 BLF

Part Number and Part Code Structure

TGS	CCE	32K768	A	20	-12.5	-20	-60	B	LF	XX
1	2	3	4	5	6	7	8	9	10	11

- 1) TGS: Company Code
- 2) CCE: KHz Thru Hole Crystals, Ø1.2*H4.2mm
- 3) 32K768: Frequency Range 32.768000KHz
- 4) A: Oscillation Mode, AT Fund.
- 5) 20: Frequency tolerance: +/-20ppm or specify
- 6) 12.5: Load Capacitance, 12.5pF; 9: 9.0pF or Specify
- 7) 20: Operating Temp. Range -20°C ~+70°C; 40: -40°C ~+85°C or Specify
- 8) 60: Equivalent Series Resistance, 60 Kohm Max.
- 9) B: Package in Bulk
- 10) LF: RoHS Compliant
- 11) XX: Internal Control Code- 2 letter or digits ; Blank: N/A

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