



Scale 2:1

Features

- ▶ **Equivalents to Epson MC-405 & MC-406**
- ▶ **Plastic moulded surface mount package**
- ▶ **Miniature size for high density applications**
- ▶ **Supplied on tape and reel**

Standard Frequencies

Frequencies in kHz			
24.000	40.000	77.500	150.000
26.667	65.536	96.000	153.600
31.200	75.000	99.660	200.000
32.000	76.800	100.000	307.200
32.768	77.025	106.000	614.400
38.000	77.040	130.000	
38.400	77.056	131.072	

Ordering Information

Product name + frequency + specification (if non-standard)
 eg: **GSX-455 38.40kHz**
GSX-456 76.80kHz ±50ppm
 Option code X (eg GSX-455/X) denotes a custom specification.
 Available on T&R - 2k pcs per reel.

Specifications

GSX-455: Electrical connection end to end

GSX-456: Electrical connection across one end

Parameters	Product		Option Codes
	455	456	
Package:	GSX-455 GSX-456	■ ■	
Frequency:	32.768kHz 24.0 ~ 350kHz 351 ~ 615kHz	■ □ □	■ □ □ specify specify
Calibration tolerance:	±20ppm ±50ppm ±100ppm	■ □ □	■ □ □ specify specify
Temperature stability:	-53ppm (-10 to +60C) -130ppm (-30 to +80C)	■ ■	■ ■
Operating temperature range:	-10 to +60C Other	■ □	■ □ specify
Operable temperature range:	-40 to +85C	■	■
Storage temperature range:	-55 to +125C	■	■
Turnover temperature (T ₀):	+25C ±5C (32.768kHz) +25C ±8C (24.0 ~ 350kHz) +25C ±15C (351 ~ 615kHz)	■ ■ ■	■ ■ ■
Frequency / temp coefficient:	-0.035 ±0.008ppm/C ² typ	■	■
Circuit condition:	12.5pF 6.0 ~ 12.5pF	■ □	■ □ specify
Static capacitance (C ₀):	1.0pF (32.768kHz) 0.95pF (24.0 ~ 350kHz) 0.90pF (351 ~ 615kHz)	■ ■ ■	■ ■ ■
Motional capacitance (C _p):	3.0fF typ	■	■
Equivalent series resistance (max):	50kΩ (32.768kHz) 50kΩ (24.0 ~ 350kHz) 20kΩ (351 ~ 615kHz)	■ ■ ■	■ ■ ■
Ageing:	±5ppm max first year	■	■
Drive level:	1.0μW typ	■	■
Shock resistance:	±5ppm	■	■
Soldering conditions:	240C, 10sec max	■	■

■ Standard. □ Optional - Please specify required code(s) when ordering