

# Shoulder 好达

SHOULDER ELECTRONICS CO., LTD.

## SAW Components Data Sheet

PRODUCT 产品: SAW RESONATOR

MODEL NO 型号: HDR□□□M SMD-20

PREPARED 编制:

CHECKED 审核:

APPROVED 批准:

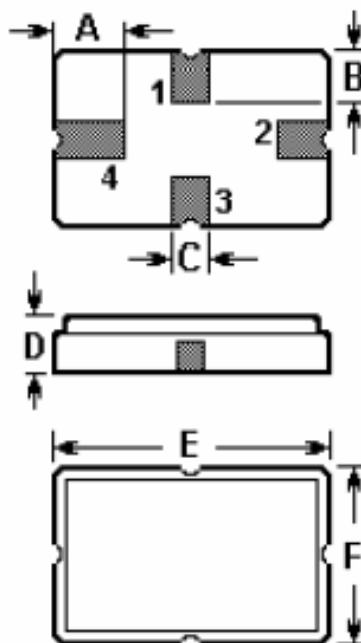
DATE 日期: 2007-01-25

## 1.SCOPE

This specification shall cover the characteristics of 1-port SAW resonator used for remote-control security.

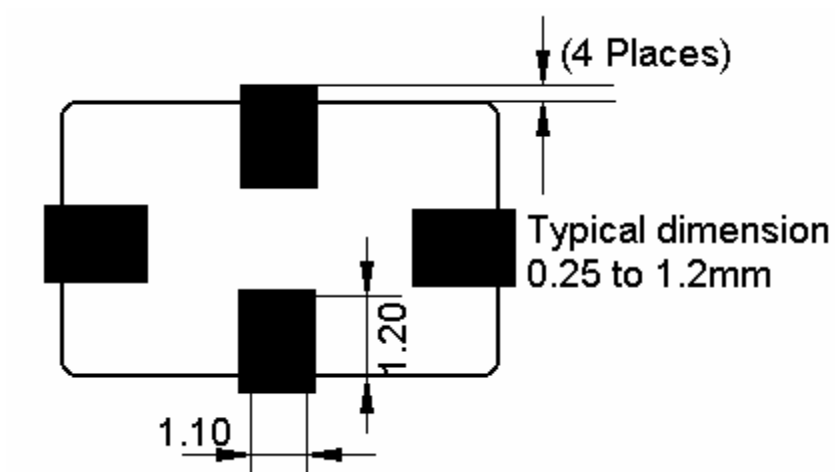
## 2. DIMENSION

2-1 Typical dimension(unit: mm)

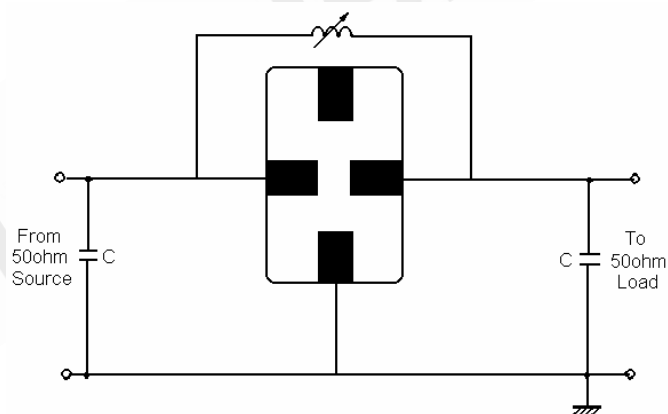


Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	1.2±0.1	D	1.4±0.1
B	0.8±0.1	E	5.0±0.1
C	0.5	F	3.5±0.1

Pin	Configuration
1	Input / Output
3	Output / Input
2/4	Case Ground



### 3. TEST CIRCUIT



## 4. Electrical characteristics

Part number	min	typ	max	unit
Center Frequency	Table 1			
Insertion Loss		1.5	2.5	dB
Quality Factor Unload Q		11.000		
50 Ω Loaded Q		2.000		
Temperature Stability	Turnover Temperature		39	°C
	Turnover Frequency		$f_0 \pm 2.7$	KHz
	Freq.temp.Coefficient		0.032	ppm/°C <sup>2</sup>
Frequency Aging		$< \pm 10$		ppm/yr
DC. Insulation Resistance	1.0			M Ω
RF Equivalent RLC Model	Motional Resistance R1		10	26 Ω
	Motional Inductance L1		86	μ H
	Motional Capacitance C1		1.56	pF
Shunt Static Capacitance	1.7	2.0	2.3	pF

**Table 1**

F <sub>0</sub> (MHz)	Frequency accuracy (KHz)	F <sub>0</sub> (MHz)	Frequency accuracy (KHz)
292.000	±75	424.825	±75
293.125	±75	426.062	±75
300.000	±75	426.275	±75
302.000	±75	430.500	±75
303.825	±75	430.650	±75
303.875	±75	431.705	±75
304.300	±75	431.900	±75
305.000	±75	433.385	±75
307.300	±75	433.420	±75
308.500	±75	433.650	±75
310.000	±75	433.920	±75
311.063	±75	433.950	±75
314.200	±75	434.420	±75
314.500	±75	434.520	±75
315.000	±75	435.200	±75
315.050	±75	435.800	±75
315.500	±75	437.500	±75
316.800	±75	435.700	±75
317.500	±75	447.275	±75
318.000	±75	447.325	±75
319.300	±75	447.625	±75
319.500	±75	447.675	±75
320.000	±75	447.725	±75
325.000	±75	479.500	±75
330.000	±75	497.500	±75
335.100	±75	824.000	±250
340.000	±75	842.000	±250
342.000	±75	857.650	±250
345.000	±75	866.000	±250
360.000	±75	868.000	±250
372.000	±75	868.300	±250
372.500	±75	868.320	±250
380.000	±75	868.350	±250
383.160	±75	868.500	±250
390.000	±75	868.750	±250
395.000	±75	868.950	±250
396.000	±75	887.000	±250
401.250	±75	905.800	±250
403.050	±75	914.000	±250
403.550	±75	914.500	±250
407.300	±75	915.000	±250

417.500	±75	916.300	±250
418.000	±75	916.500	±250
420.000	±75	916.800	±250
423.220	±75	927.000	±250
423.920	±75		

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