



**Features**

- Wide variety of tones by connecting to IC
- Low current consumption, thin and light design
- High reliability and no contact noise

**Applications**

- Clocks, Electronic Calculators, Pagers, Cameras
- Equipment Using Microcontrollers (Microwave Ovens, TVs, Stereos, Automobiles, etc.)
- Telecommunications (Facsimile Machines, Telephones)
- Electronic Medical Instruments

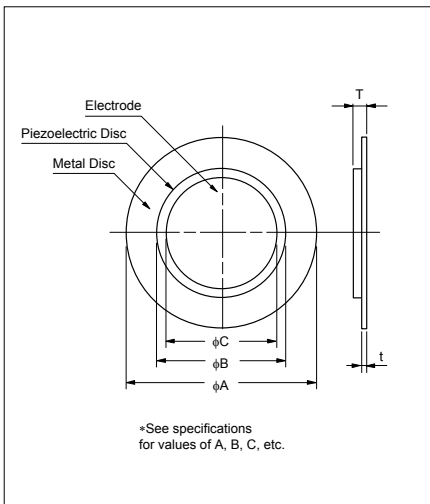
**How to Order**

**KBS - 20 DA - 7 A □ -1**  
 ① ② ③ ④ ⑤ ⑥ ⑦

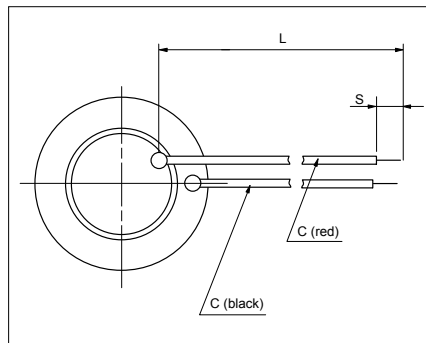
- ① Series
- ② Diameter (mm)
- ③ Appearance (Disc-Shaped Buzzer)
- ④ Resonant Frequency
- ⑤ 2-Electrode Type  
(A: Element Only, C: With Lead)
- ⑥ Metal (Blank: Brass)
- ⑦ Option Spec (Lead-wire Spec etc.)

**Dimensions**

(Unit : mm)



**Standard Leads**



<b>W: Thickness</b>	AWG-32 UL-1571
<b>L: Length (mm)</b>	50±5, 75±5, 100±10
<b>S: Strip (mm)</b>	3±1
<b>C: Color</b>	red, black

**Specifications (A type)**

Part Number	Resonant Frequency [kHz]	Resonant Impedance [Ω]	Capacitance [pF]	Dimensions (mm)					Metal Disc Material
				Metal Disc (φA)	Ceramic Disc (φB)	Electrode (φC)	Total Thickness (T)	Metal Disc Thickness (t)	
KBS-13DA-12A	12.0±1.2	700	5,000±30%	13.4±0.1	10.0±0.3	(9.0)	0.36±0.1	0.15±0.03	Brass
KBS-15DA-9A-2	10.5±3.0	600	8,000±30%	15.0±0.1	12.0±0.3	(11.0)	0.42±0.1	0.20±0.03	Brass
KBS-20DA-7A	6.6±1.0	300	10,000±30%	20.0±0.1	14.2±0.3	(13.0)	0.45±0.1	0.20±0.03	Brass
KBS-23DA-4A	4.0±1.0	600	12,000±30%	22.8±0.1	15.0±0.3	(14.0)	0.41±0.1	0.15±0.03	Brass
KBS-27DA-5A	4.6±0.5	200	20,000±30%	27.0±0.1	20.2±0.3	(19.0)	0.53±0.1	0.25±0.03	Brass
KBS-30DA-1A	1.4±0.5	500	*48,000±30%	30.0±0.1	20.2±0.3	(19.0)	0.23±0.1	0.10±0.03	Brass
KBS-35DA-3A	2.9±0.5	200	30,000±30%	35.0±0.1	25.0±0.5	(23.5)	0.53±0.1	0.25±0.03	Brass

\* Measured at 120Hz, all others at 1kHz



**Features**

- High sound pressure level and clear sound by connecting to a self oscillating circuit
- Thin and light design
- High reliability and no contact noise

**Applications**

- Smoke Detectors, Security Alarms and Other Warning Devices
- Pagers, Electronic Calculators, Alarm Signals
- Telephones

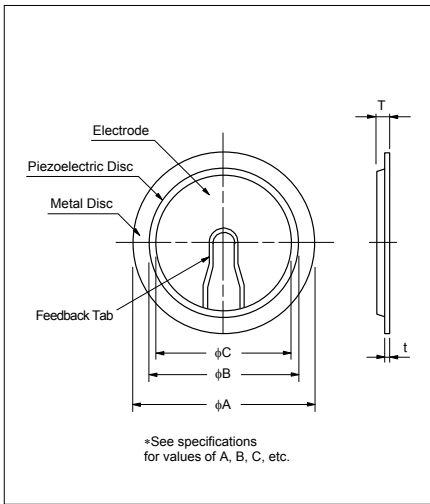
**How to Order**

**KBS - 35 DA - 3 G □ - 3**  
 ① ② ③ ④ ⑤ ⑥ ⑦

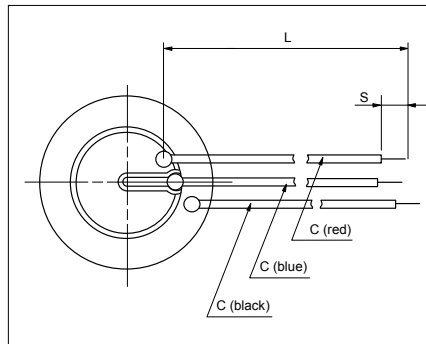
- ① Series
- ② Diameter (mm)
- ③ Appearance (Disc-Shaped Buzzer)
- ④ Resonant Frequency
- ⑤ 3-Electrode Type  
(G: G-Pattern, GC: G-Pattern with Leads)
- ⑥ Metal (Blank: Brass)
- ⑦ Option Spec (Lead-wire Spec etc.)

**Dimensions**

(Unit : mm)



**Standard Leads**



<b>W: Thickness</b>	AWG-32 UL-1571
<b>L: Length (mm)</b>	50±5, 75±5, 100±10
<b>S: Strip (mm)</b>	3±1
<b>C: Color</b>	red, black, blue

**Specifications (G type)**

Part Number	Resonant Frequency [kHz]	Resonant Impedance [Ω]	Capacitance [pF]	Dimensions (mm)					Metal Disc Material
				Metal Disc (φA)	Ceramic Disc (φB)	Electrode (φC)	Total Thickness (T)	Metal Disc Thickness (t)	
KBS-27DA-5G	4.6±0.5	200	16,000±30%	27.0±0.1	20.2±0.3	(19.0)	0.53±0.1	0.25±0.03	Brass
KBS-35DA-3G	2.9±0.5	200	25,000±30%	35.0±0.1	25.0±0.3	(23.6)	0.53±0.1	0.25±0.03	Brass