



Data Specs

Piezo Ceramic Element - Self Oscillating Type

Self Drive Piezo Ceramic Element have three terminals. The third terminal supplies a feed-back voltage that is 180° out of phase with the drive signal. Refer to the application circuit examples that can be used with these types of transducers.



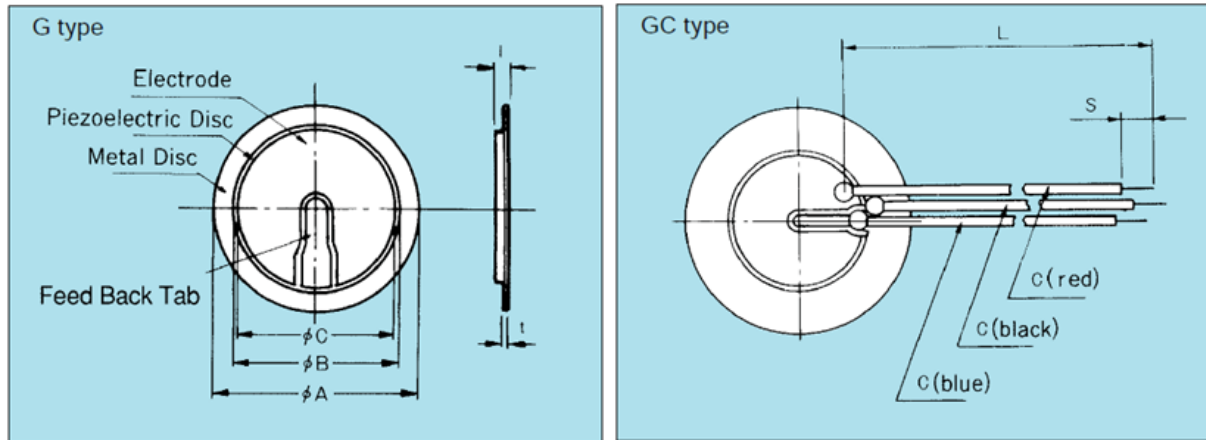
SKU: [PAX-1168](#)

Brief Data:

- Model: KBS-35-DA-3GC.
- Diameter: Ø35mm.
- Element shape: Disc-Shaped.
- Resonant Frequency: 3.2KHz.
- Number of Electrode: 3-Terminal.
- Disc Material: Brass.

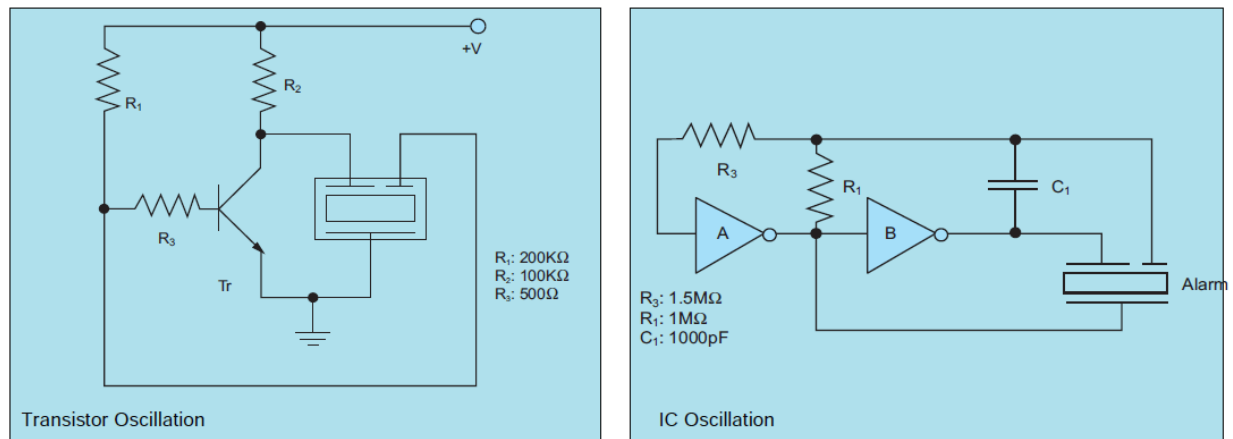
Mechanical Dimension:

Unit: mm

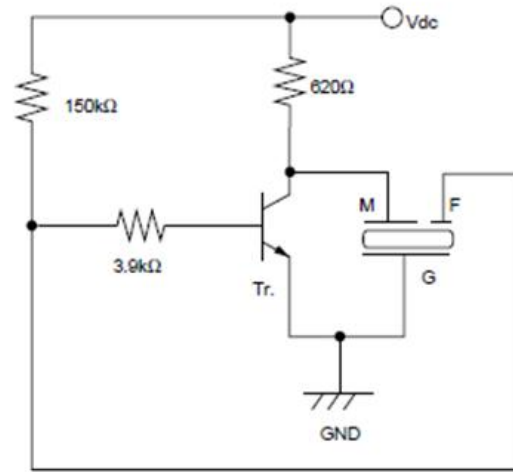
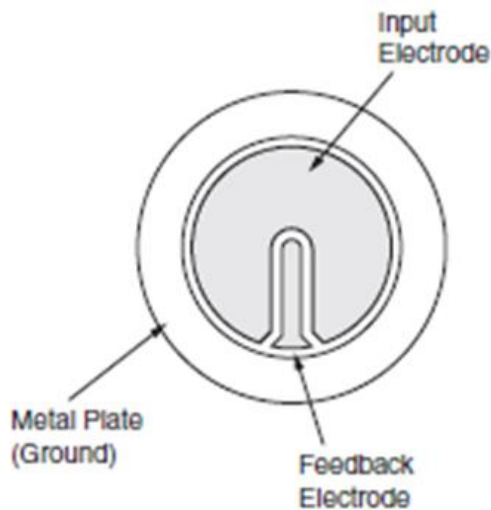


Resonant Frequency kHz	Resonant Impedance Ω	Static Capacitance pF	Metal Disc ϕA	Ceramic Disc ϕB	Electrode ϕC	Total Thickness T	Metal Disc Material
3.2	200	25,000	35	25	24	0.52	Brass

Application Circuits for Self-Drive Oscillation Buzzer:



It should be noted that these circuits are only initial suggestions. Values of the resistors may need to be adjusted depending on the particular transducer model used. Square-wave type signals result in more sound level than sine-wave type signals.



Wire Color	Red	Black	Blue
Function	Input Electrode M	Ground G	Feedback F

The piezo effect works both ways: if you apply a voltage the piezo stretches, but also if it stretches it creates a voltage. This principle is used to create a feedback signal which drives the oscillator.

The advantage of the self-drive is that it will auto-magically work at its resonance frequency, where it produces the loudest sound. In 2-wire circuits the oscillator's frequency is independent of the piezo's resonance frequency, and it's the designer who has to make that they're close to resonance frequency.

Method above figure shows a typical application of the self-drive method. The piezoelectric diaphragm provided with feedback electrode shown in figure is involved in the closed loop of a Hartley types oscillation circuit. When the frequency is closed to the resonant frequency, the circuit satisfies oscillating conditions, and the piezoelectric diaphragm is driven with the oscillating frequency. Figure shows a simple oscillating circuit consisting of one transistor and three resistors. Proper resonance of the piezoelectric diaphragm by the node support provides stable oscillation with high mechanical Qm of vibration but also a single high pressure tone.