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|---|--|---|
| SPECIFICATION SHEET NO. | S0308 - SBF1G8425X9077 | |
| ORIGINAL MFG/PART NO. | TGS Crystals/SBF1.8425GA TLF/SBF1.8425G DX9077/DX9077 | |
| NEXTGEN PART CODE | SBF1G8425X9077 | Indicate This Code For RFQ /Order |
| DATE | Mar. 8, 2025 | |
| REVISION | A3 | Updated With Most Recent Data |
| DESCRIPTION AND MAIN PARBMETRICS | <p>SMD SAW Filter, 6 Pads, 3838 Type, SBF Series</p> <p>Case Dimension L3.8*W3.8*H1.50mm</p> <p>Center Frequency 1842.50MHz; Insertion Loss: 1.8dB Typical, 2.5dB Max.</p> <p>Amplitude Ripple : 2.0dB Max.</p> <p>Operating Temp. Range -40°C ~ +85°C</p> <p>Reflow Profile Condition 260°C Max.</p> <p>Package in Tape/Reel, 1000pcs/Reel</p> <p>REACH/RoHS/RoHS III Compliant</p> | |
| CUSTOMER | | |
| CUSTOMER PART NUMBER | | |
| CROSS REF. PART NUMBER | | |
| MEMO | | |

| | | |
|------------------------------|---|--|
| VENDOR APPROVE | | |
| Issued/Checked/Approved |  |  |
| Effective Date: Mar. 8, 2025 | | |

| |
|-------------------------|
| CUSTOMER APPROVE |
| |
| Date: |

MAIN FEATURE

- SMD SAW Filter 3838 Type 6 Pads
- Dimension L3.8*W3.8*H1.5mm
- Low-loss SAW Filter
- Low Amplitude Ripple
- No Matching Network Required For Operation At 50Ω
- Usable Passband 75MHz
- Package code DCC6
- Ceramic Package For Surface Mounted Technology (SMT)
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level (MSL) 1
- Short Lead time
- Cross Competitors Parts and More
- REACH/RoHS/RoHS III Compliant

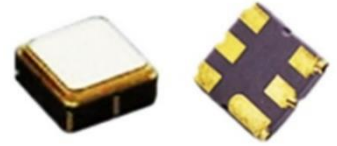


Image shown is a representation only. Exact specifications should be obtained from the product dimension.



APPLICATION

- Bluetooth, Wireless Communication Set
- Communication Electronics
- GPS, Remote Control Application

ELECTRICAL CHARBCTERISTICS

- See Page 5
- All Products Parameters are Subject To NextGen Components' Final Confirmation.

HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code SBF1G8425X9077 For RFQ and Order.

PART CODE GUIDE

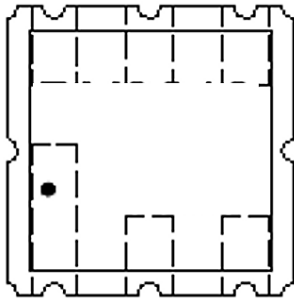
RFQ

[Request For Quotation](#)

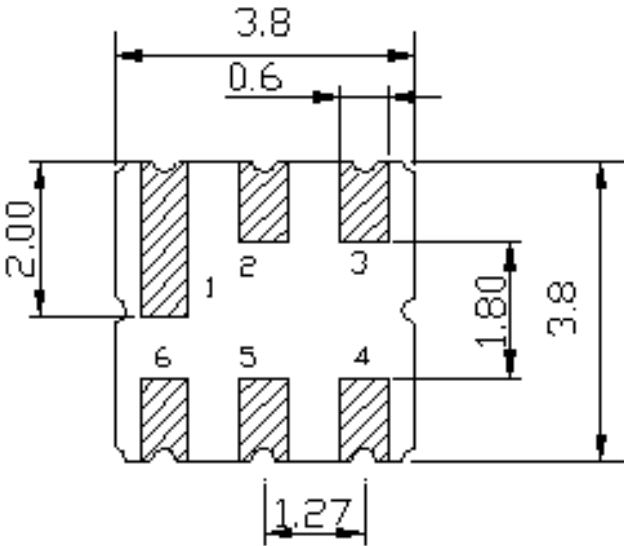
| CODE | NAME | KEY SPECIFICATION OPTION |
|--------|-----------------------------------|---|
| SBF | Series Code | SMD SAW Filter Case Dimension L3.8*W3.8*H1.50mm 3838 Type 6 Pads |
| 1G8425 | Frequency Range Code | 1G8425: 1.8425GHz |
| X9077 | Internal Control Code | Letter A~Z, a~z or Digits (1-9) |
| XX | Special/Custom Parameters Code | Blank: N/A XX: Letter A~Z, a~z or Digits (0~9) for Special/Custom Parameters |

DIMENSION - Unit: mm, L3.8*W3.8*H1.5mm

Top View

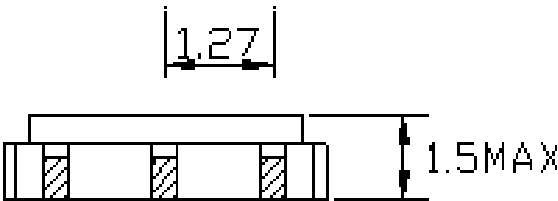


Bottom View



| PIN NO. | 2 | 5 | 1, 3, 4, 6 |
|---------------|-------|--------|-------------|
| CONFIGURATION | Input | Output | Case Ground |

Side View



MAX. RATING & CHARACTERISTICS - At 25±2°C Ambient Temperature Unless Otherwise Specified.

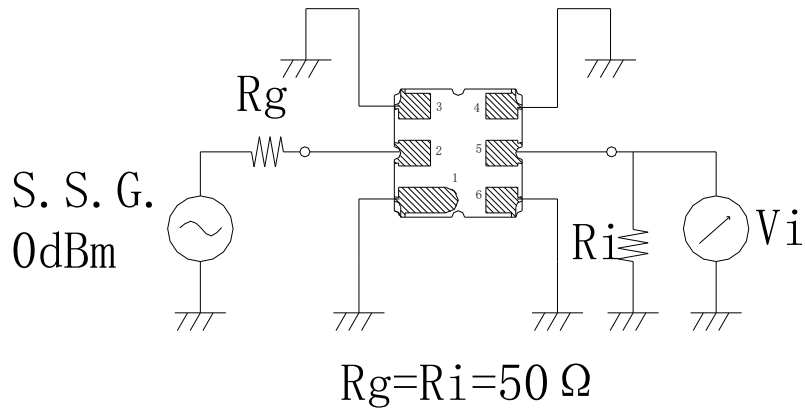
| PARAMETER | SYMBOLS | VALUE | UNITS |
|-----------------------------|---------|-------------|-------|
| RF Power Level | P | 10 | dBm |
| DC Voltage | VDC | 3 | V |
| Operating Temperature Range | TA | -40 to +85 | °C |
| Storage Temperature Range | Tstg | -55 to +125 | °C |

ELECTRONICAL CHARACTERISTICS

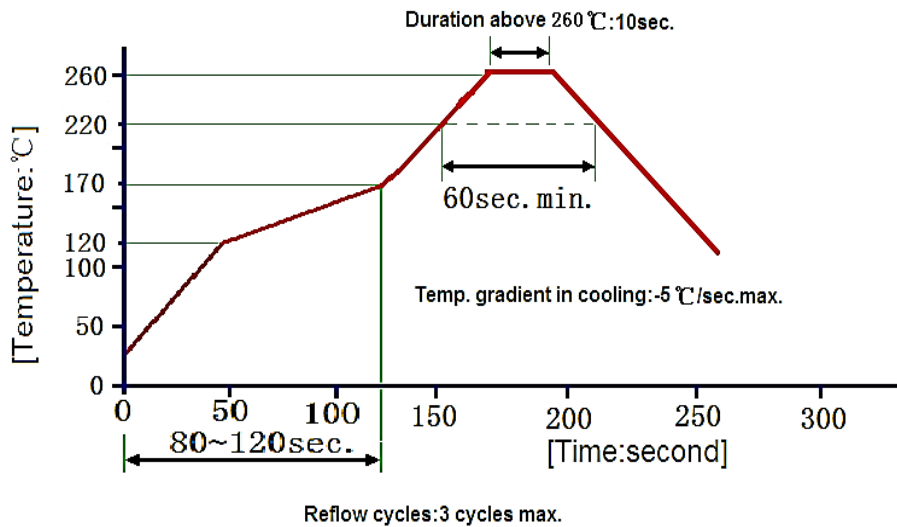
1) Test Temperature: 25°C±2°C 2) Terminating source impedance: 50Ω 3) Terminating load impedance: 50Ω .

| PARAMETER | | SYMBOLS | CHARACTERISTICS | | | |
|------------------------|--------------------|---------|-----------------|---------|-------|------|
| | | | MIN. | TYPICAL | MAX. | UNIT |
| Center Frequency | | FC | - | 1842.5 | - | MHz |
| Insertion Loss | | IL | - | 1.8 | 2.5 | dB |
| Insertion Loss | 1805.0 - 1880.0MHz | IL | - | 3.0 | 3.5 | dB |
| Amplitude Ripple (p-p) | 1805.0 - 1880.0MHz | Δα | - | 1.0 | 2.0 | dB |
| Group Delay Ripple | 1805.0 - 1880.0MHz | GDR | - | 15 | 50 | ns |
| Absolute Attenuation | DC ~ 1500MHz | α | 20 | 22 | - | dB |
| | 1500 ~ 1710MHz | | 22 | 24 | - | dB |
| | 1710 ~ 1785MHz | | 10 | 23 | - | dB |
| | 1920 ~ 3120MHz | | 23 | 24 | - | dB |
| | 3120 ~ 4000MHz | | 25 | 30 | - | dB |
| | | | | | | |
| Input VSWR | 1805.0 - 1880.0MHz | | - | 1.9:1 | 2.2:1 | / |
| Output VSWR | 1805.0 - 1880.0MHz | | - | 1.9:1 | 2.2:1 | / |

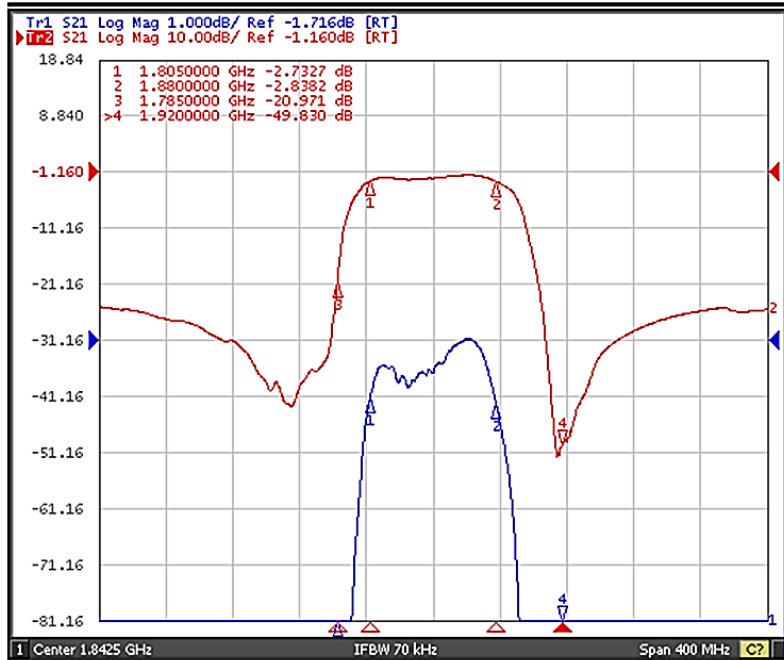
MEASUREMENT CIRCUIT – FOR REFERENCE ONLY



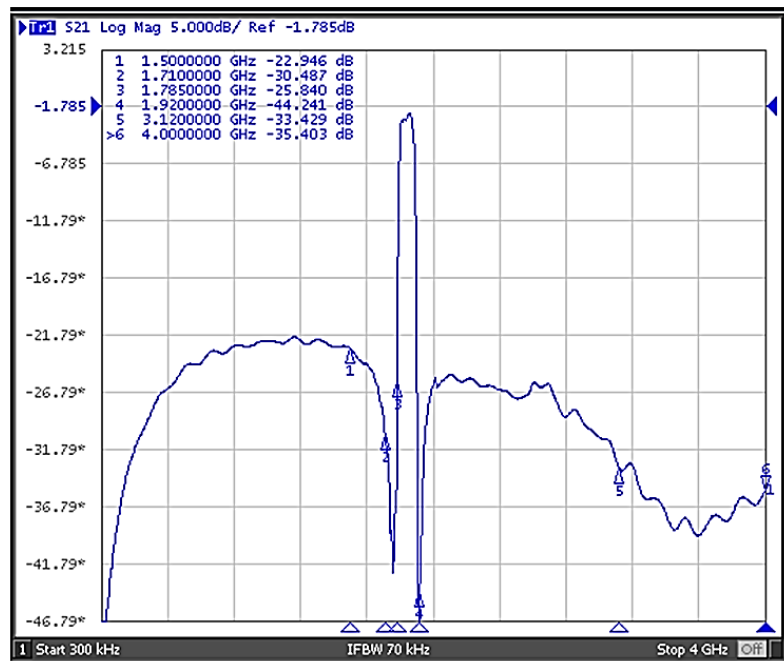
RECOMMENDED SOLDERING PROFILE – FOR REFERENCE ONLY



FREQUENCY CHARACTERISTICS – FOR REFERENCE ONLY

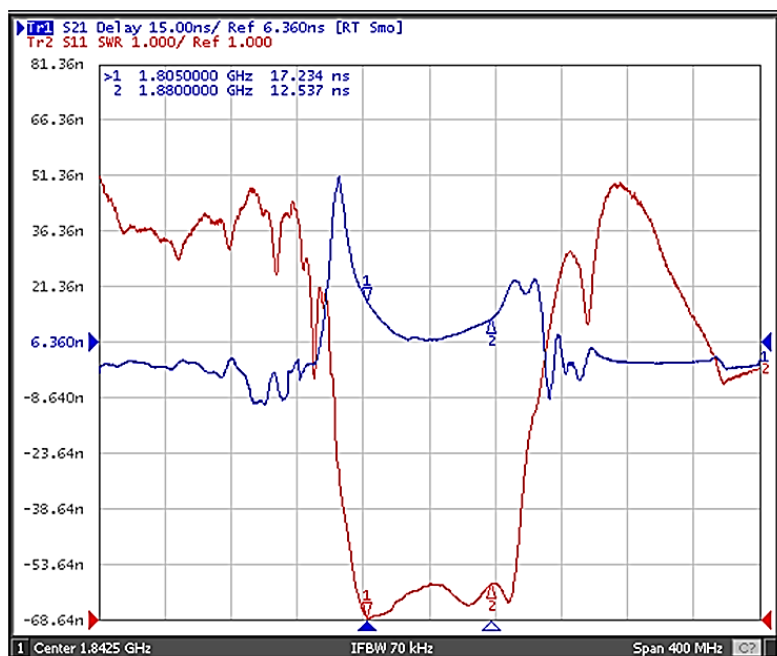


Frequency Response

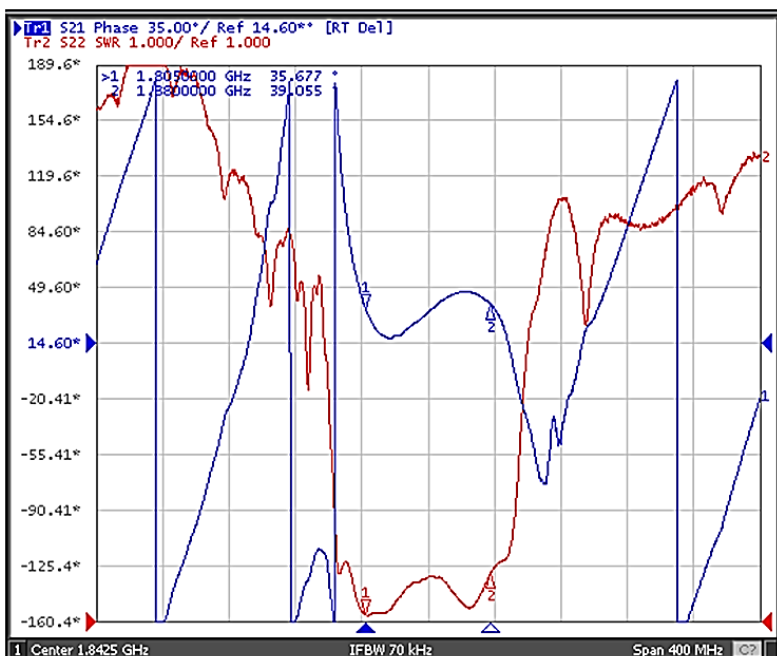


Frequency Response (wideband)

FREQUENCY CHARACTERISTICS – FOR REFERENCE ONLY

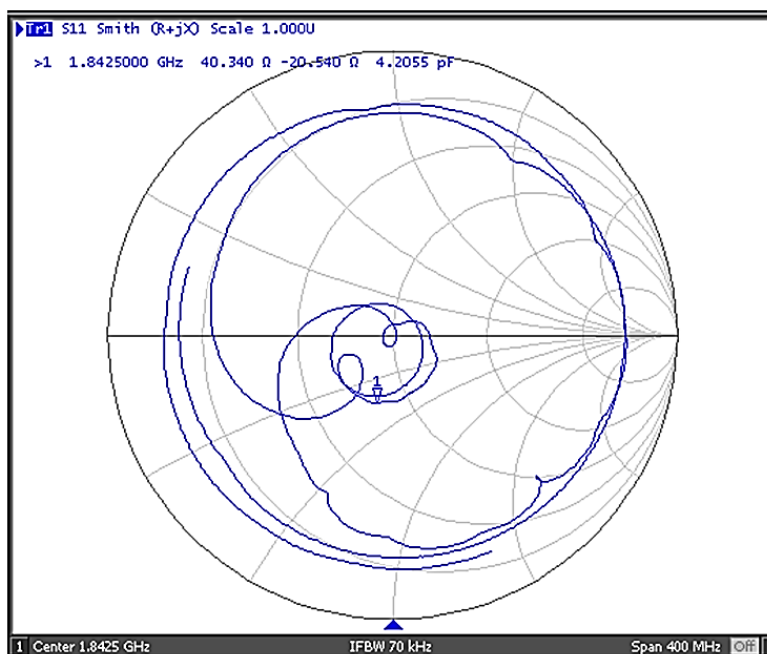


Delay Ripple & S11 VSWR

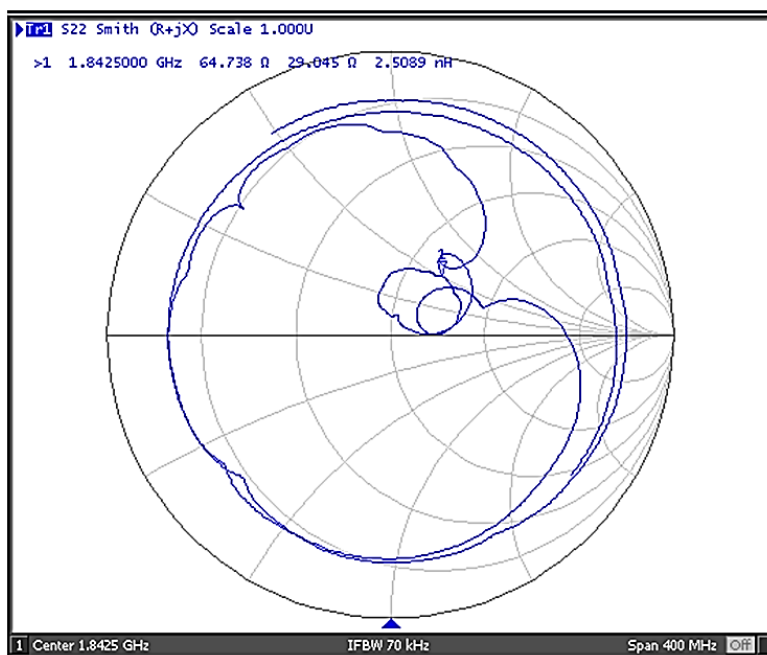


Phase Linearity & S22 VSWR

FREQUENCY CHARACTERISTICS – FOR REFERENCE ONLY



S11 Smith Chart



S22 Smith Chart

RELIABILITY CHARACTERISTICS

| TEST ITEMS | TEST METHOD AND CONDITIONS |
|------------------------------|---|
| High Temperature Storage | <ul style="list-style-type: none"> Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, Duration: 250h , Recovery time: $2\text{h} \pm 0.5\text{h}$ Temperature: $-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$, Duration: 250h ,Recovery time: $2\text{h} \pm 0.5\text{h}$ |
| Humidity Test | <ul style="list-style-type: none"> Conditions: $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 90~95% RH, Duration: 250h |
| Thermal Shock | <ul style="list-style-type: none"> Heat cycle conditions: $\text{TA} = -55^{\circ}\text{C} \pm 3^{\circ}\text{C}$, $\text{TB} = 85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, $t_1 = t_2 = 30\text{min}$, Switch time: $\leq 3\text{min}$, Cycle time: 100 times, Recovery time: $2\text{h} \pm 0.5\text{h}$. |
| Vibration Fatigue | <ul style="list-style-type: none"> Frequency of vibration: 10~55Hz, Amplitude:1.5mm Directions: X,Y and Z, Duration: 2h |
| Drop Test | <ul style="list-style-type: none"> Cycle time: 10 times, Height: 1.0m |
| Solderability | <ul style="list-style-type: none"> Temperature: $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$, Duration: 3.0s--5.0s, Depth: DIP--2/3 , SMD--1/5 |
| Resistance to Soldering Heat | <ul style="list-style-type: none"> Thickness of PCB:1mm , Solder condition: $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$, Duration: $10 \pm 1\text{s}$ Temperature of Soldering Iron: $350^{\circ}\text{C} \pm 10^{\circ}\text{C}$, Duration: 3~4s , Recovery time : $2 \pm 0.5\text{h}$ |
| Remarks | <ul style="list-style-type: none"> As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to ESD protect in the test. Static voltage between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage. Ultrasonic cleaning may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning. Only leads of component may be soldered. Please avoid soldering another part of component. There is a close relationship between the device's performance and matching network. The specifications of this device are based on the test circuit shown above. L and C values may change depending on board layout. Values shown are intended as a guide only. |

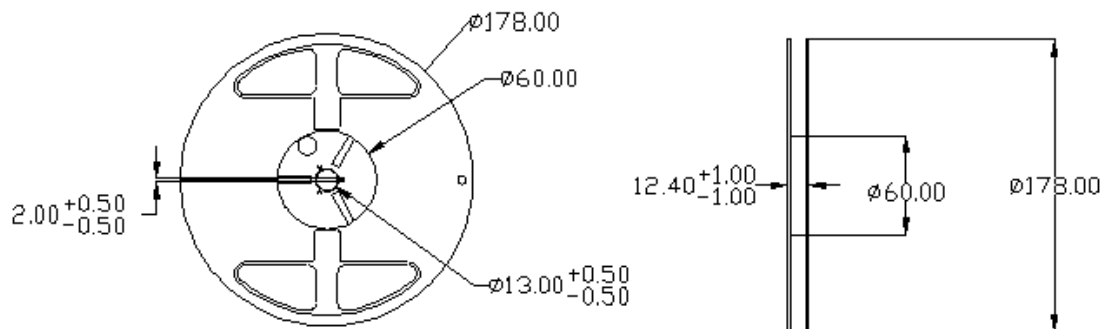
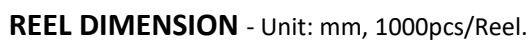
Technical drawing of a mechanical part, likely a bracket or support, showing dimensions and tolerances. The drawing includes a top view and a side view.

Top View Dimensions:

- Overall width: $12.00^{+0.10}_{-0.10}$
- Overall height: $5.50^{+0.05}_{-0.05}$
- Distance from left edge to first hole center: $2.00^{+0.10}_{-0.10}$
- Distance between hole centers: $\phi 1.50^{+0.10}_{-0.00}$
- Distance from last hole center to right edge: $4.00^{+0.10}_{-0.10}$
- Distance from left edge to first square feature center: $4.00^{+0.10}_{-0.10}$
- Distance between square feature centers: $4.00^{+0.10}_{-0.10}$
- Distance from last square feature center to right edge: $4.00^{+0.10}_{-0.10}$
- Distance from top edge to hole center line: $1.75^{+0.10}_{-0.10}$

Side View Dimensions:

- Overall height: $1.60^{+0.05}_{-0.05}$
- Distance from top edge to hole center line: $3.20^{+0.05}_{-0.05}$
- Distance from hole center line to bottom edge: $0.30^{+0.05}_{-0.05}$



IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.