

Super Fast Surface Mount Rectifiers

Reverse Voltage 200V to 1600V Forward Current 1.5A

YG10D thru YG10Y

Features

- For surface mounted application
- Low profile package
- Built-in stain relief, ideal for automatic placement
- Easy pick and place
- Glass passivated junction chip
- High temperature soldering: 250 °C/10 seconds at terminals
- Plastic material used carries UL flammability classification 94V-0

Mechanical Data

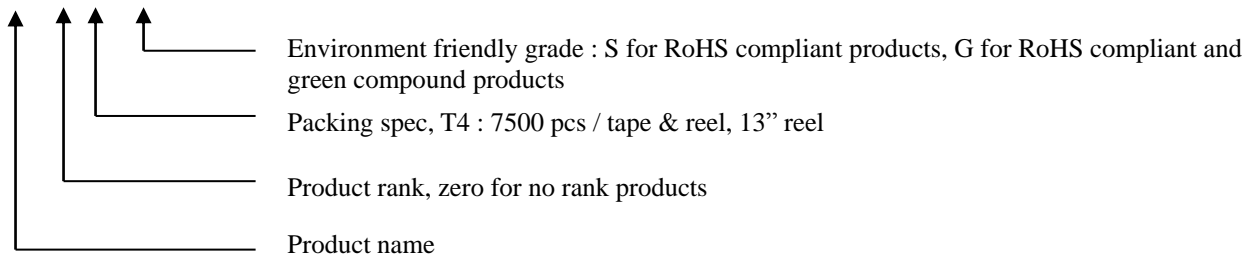
- Case: SMA/DO-214AC molded plastic
- Terminals: Pure tin plated, solderable per MIL-STD-750 method 2026
- Polarity: Indicated by cathode band
- Weight: 0.064 gram, 0.002 ounce

Outline



Ordering Information

| Device | Package | Shipping | Marking |
|--------------|--|------------------------|---------|
| YG10D-0-T4-G | SMA (Pb-free lead plating and halogen-free package) | 7500 pcs / Tape & Reel | YG10D |
| YG10G-0-T4-G | | | YG10G |
| YG10J-0-T4-G | | | YG10J |
| YG10K-0-T4-G | | | YG10K |
| YG10M-0-T4-G | | | YG10M |
| YG10Y-0-T4-G | | | YG10Y |



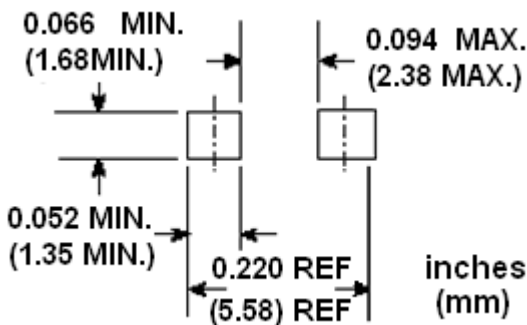
Maximum Ratings and Electrical Characteristics

(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.)

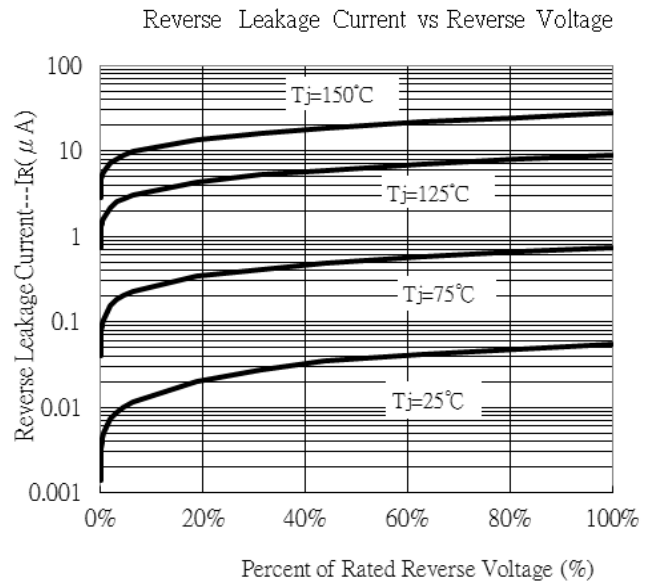
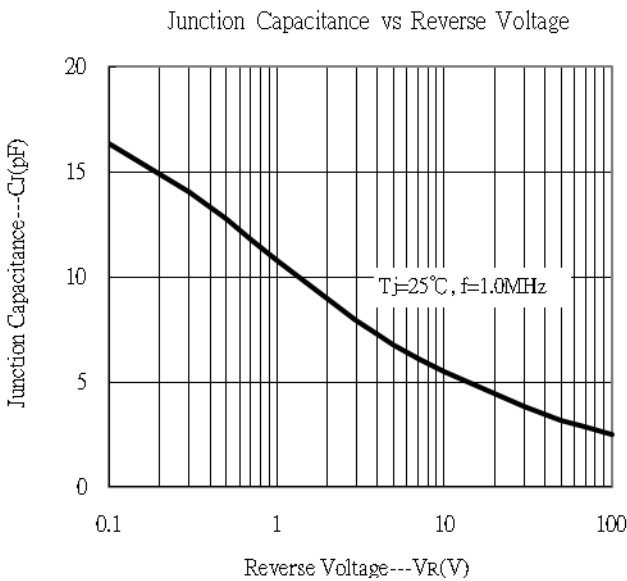
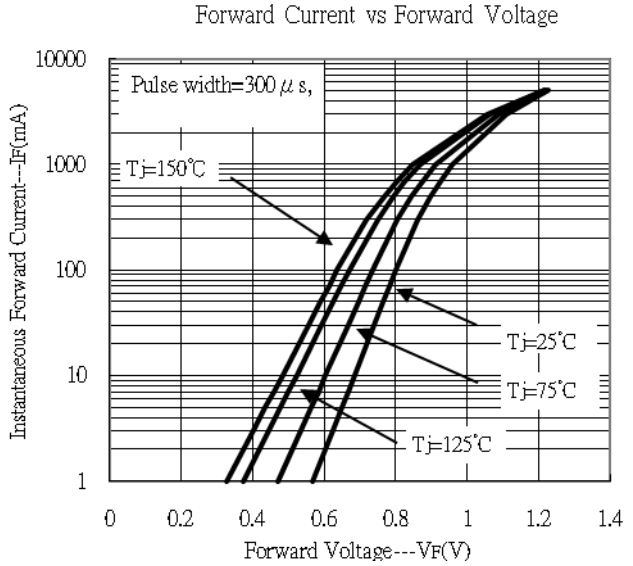
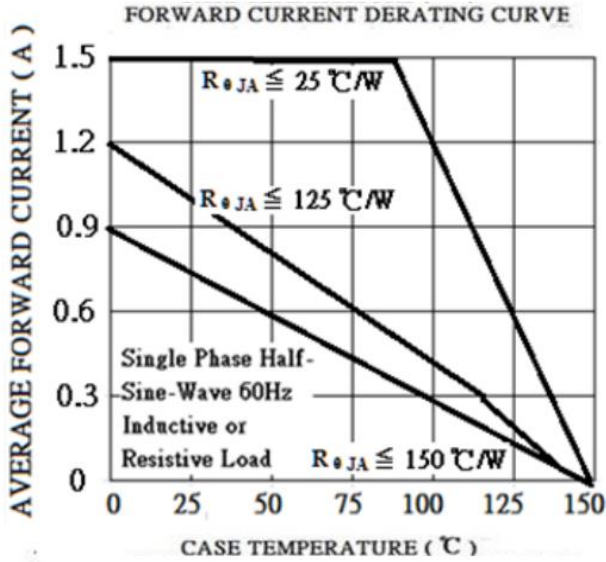
| Parameter | Symbol | Type | | | | | | Units |
|---|------------------------------------|------------|-------|-------|-------|-------|-------|--------------|
| | | YG10D | YG10G | YG10J | YG10K | YG10M | YG10Y | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | 400 | 600 | 800 | 1000 | 1600 | V |
| Maximum RMS voltage | V_{RMS} | 140 | 280 | 420 | 560 | 700 | 1120 | V |
| Maximum DC blocking voltage | V_R | 200 | 400 | 600 | 800 | 1000 | 1600 | V |
| Maximum instantaneous forward voltage, $I_F=1.5A$ | V_F | 1.15 | | | | | | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 1.5 | | | | | | A |
| Peak forward surge current @8.3ms single half sine wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | A |
| Maximum DC reverse current $V_R=V_{RRM}, T_A=25^\circ C$ $V_R=V_{RRM}, T_A=100^\circ C$ | I_R | 1 10 | | | | | | μA |
| Maximum reverse recovery time (Note 1) | t_{rr} | 4 | | | | | | us |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ $R_{\theta JC}$ | 125 40 | | | | | | $^\circ C/W$ |
| Non-Repetitive Peak Reverse Avalanche Energy at 25°C, $I_{AS}=1A / L=10mH$ | E_{as} | 20 | | | | | | mJ |
| Storage temperature range | T_{STG} | -55 ~ +150 | | | | | | $^\circ C$ |
| Operating junction temperature range | T_J | -55 ~ +150 | | | | | | $^\circ C$ |

Note: 1.Reverse recovery time conditions : $I_F=0.5A, I_R=1A, I_{RR}=0.25A$
 2.P.C.B. mounted on 0.2"×0.2"(5.0mm×5.0mm) copper pad area.

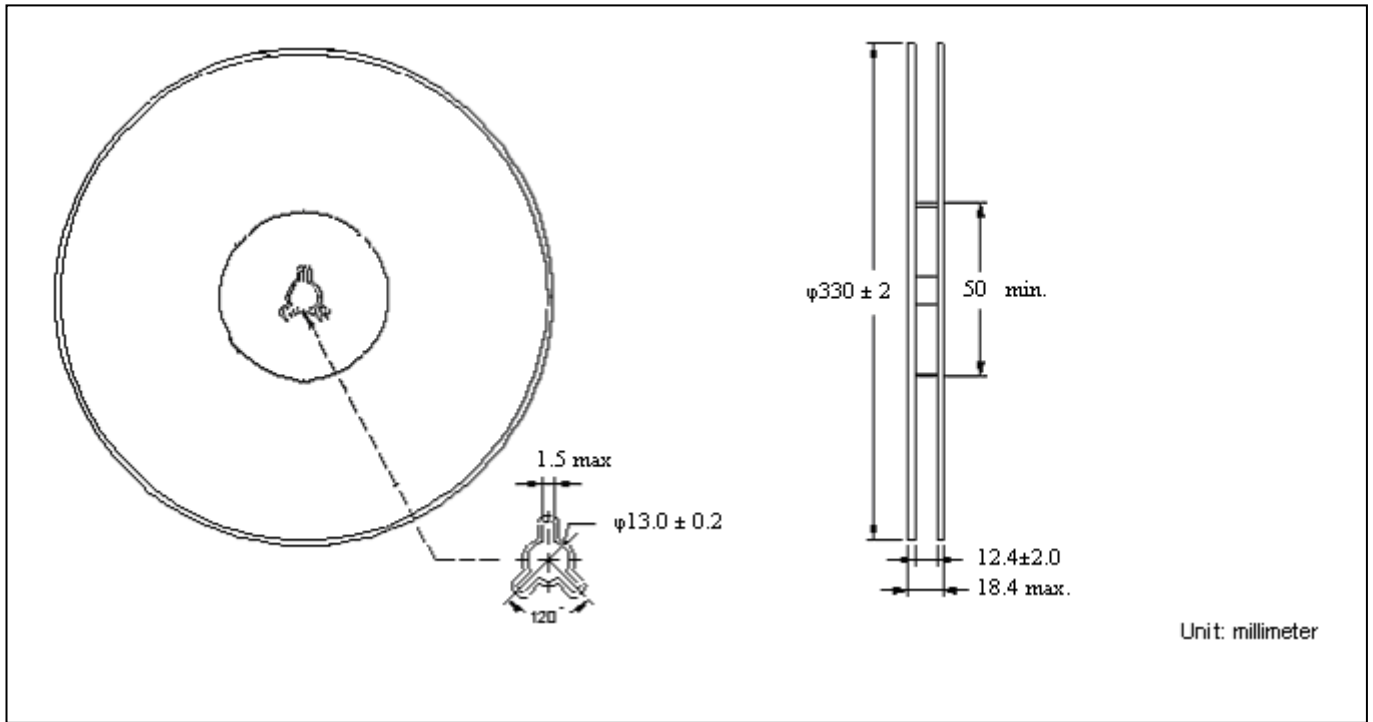
Recommended soldering footprint



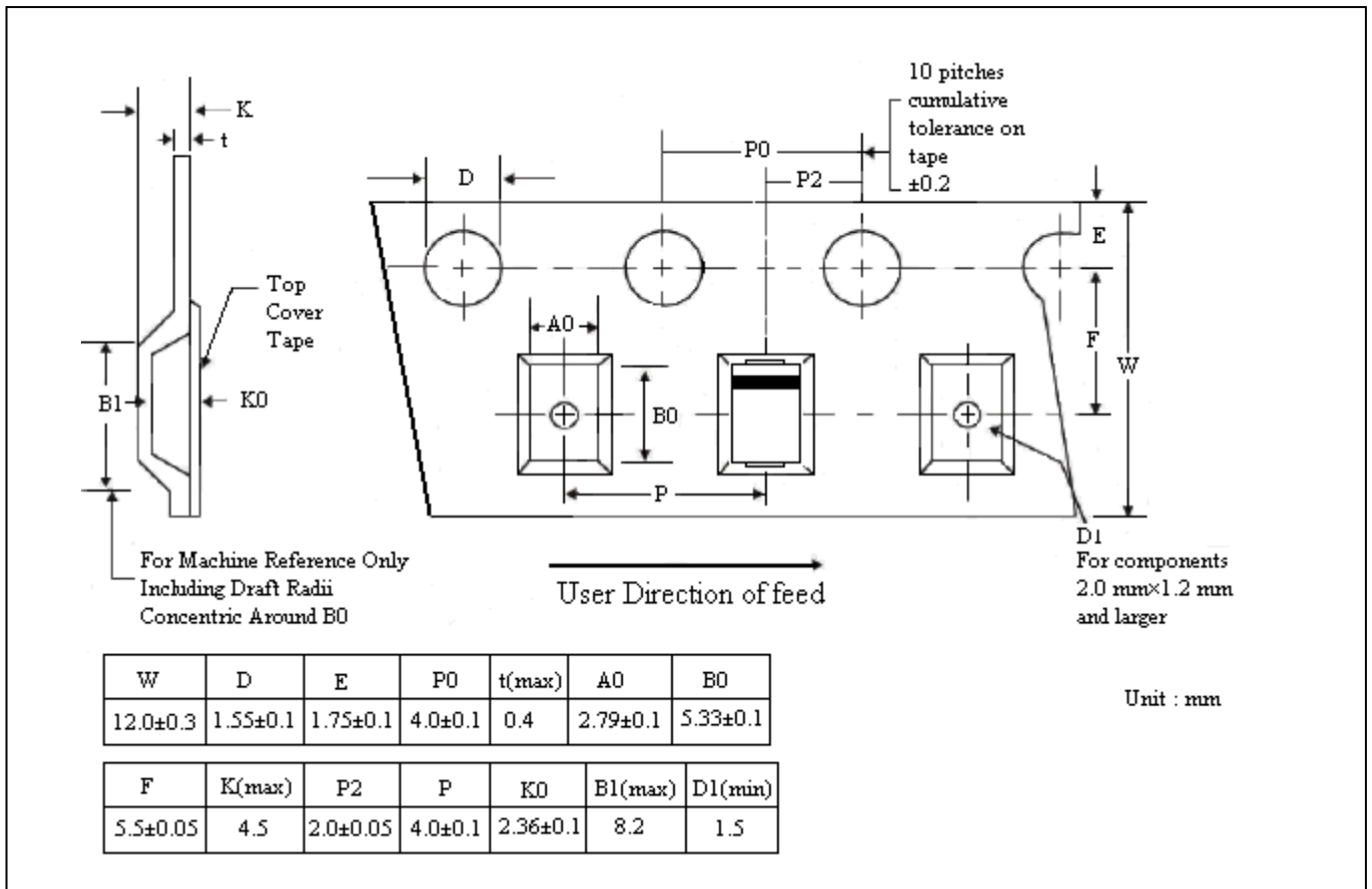
Characteristic Curves



Reel Dimension



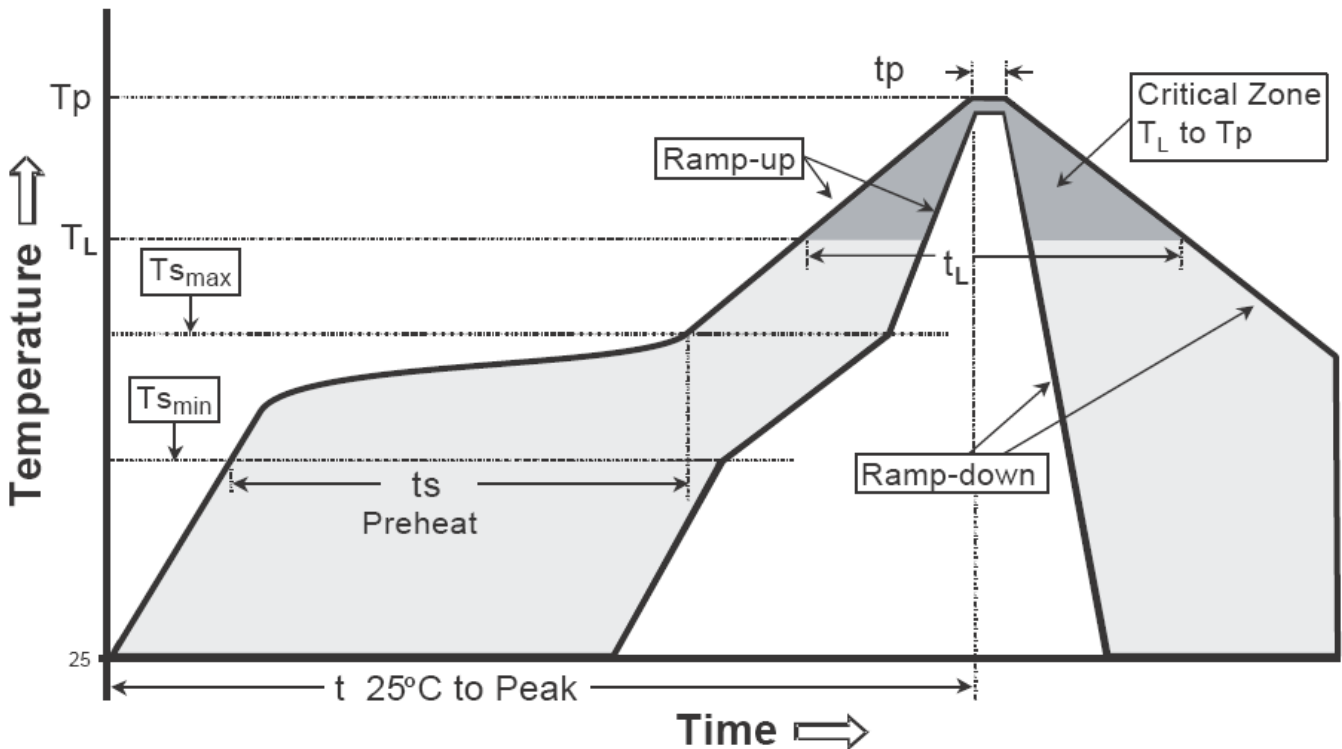
Carrier Tape Dimension



Recommended wave soldering condition

| | | |
|-----------------|------------------|-----------------|
| Product | Peak Temperature | Soldering Time |
| Pb-free devices | 260 +0/-5 °C | 5 +1/-1 seconds |

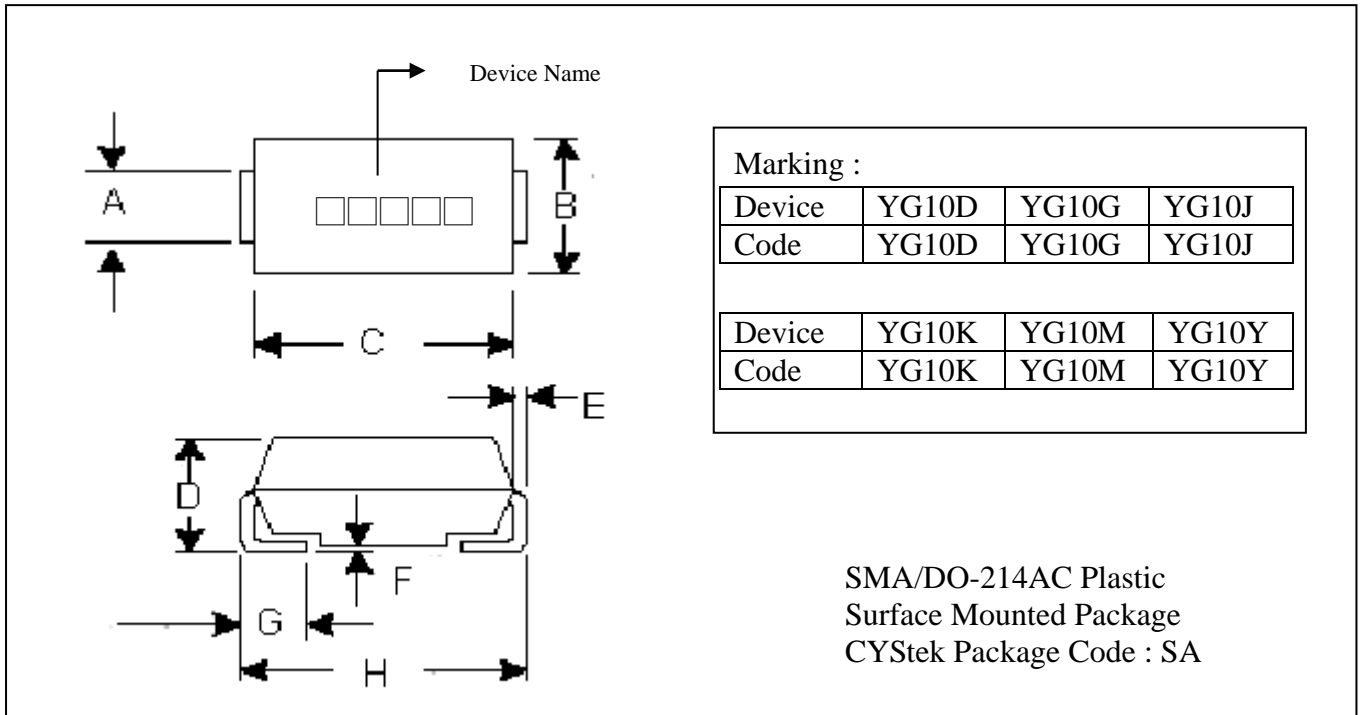
Recommended temperature profile for IR reflow



| Profile feature | Sn-Pb eutectic Assembly | Pb-free Assembly |
|--|-------------------------|------------------|
| Average ramp-up rate (Tsmax to Tp) | 3°C/second max. | 3°C/second max. |
| Preheat | | |
| -Temperature Min(Ts min) | 100°C | 150°C |
| -Temperature Max(Ts max) | 150°C | 200°C |
| -Time(ts min to ts max) | 60-120 seconds | 60-180 seconds |
| Time maintained above: | | |
| -Temperature (Tl) | 183°C | 217°C |
| - Time (tL) | 60-150 seconds | 60-150 seconds |
| Peak Temperature(Tp) | 240 +0/-5 °C | 260 +0/-5 °C |
| Time within 5°C of actual peak temperature(tp) | 10-30 seconds | 20-40 seconds |
| Ramp down rate | 6°C/second max. | 6°C/second max. |
| Time 25 °C to peak temperature | 6 minutes max. | 8 minutes max. |

Note : All temperatures refer to topside of the package, measured on the package body surface.

SMA/DO-214AC Dimension



| DIM | Inches | | Millimeters | | DIM | Inches | | Millimeters | |
|-----|--------|-------|-------------|------|-----|--------|-------|-------------|------|
| | Min. | Max. | Min. | Max. | | Min. | Max. | Min. | Max. |
| A | 0.052 | 0.062 | 1.32 | 1.60 | E | 0.006 | 0.012 | 0.15 | 0.31 |
| B | 0.098 | 0.114 | 2.50 | 2.90 | F | 0.002 | 0.008 | 0.05 | 0.20 |
| C | 0.154 | 0.181 | 3.90 | 4.60 | G | 0.030 | 0.060 | 0.76 | 1.52 |
| D | 0.067 | 0.098 | 1.70 | 2.50 | H | 0.188 | 0.208 | 4.80 | 5.28 |

Notes : 1.Controlling dimension : millimeters.
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material :

- Lead : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.

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