

10/100BASE-TX TRANSFORMER MODULES

Features:

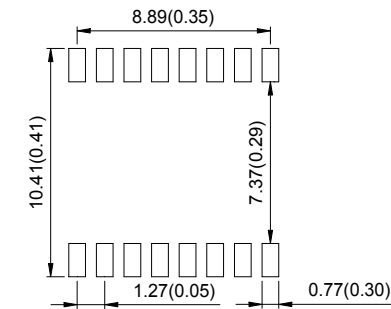
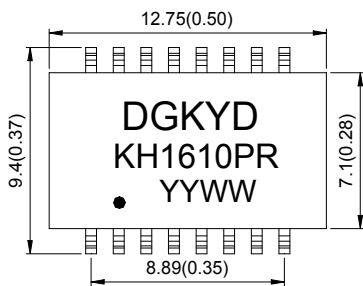
- Designed to meet IEEE 802.3 AF requirements, POE applications with 350mA current capability.
- RoHS compliant

Specifications

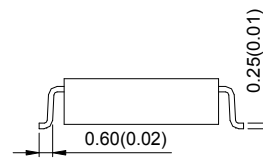
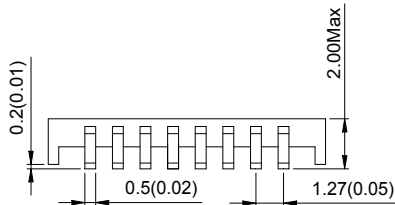
| Electrical Specification@25°C Operating Temperature 0 to +70°C | | | | | | | |
|--|------------------|---------|------------------------------------|------------------------------------|-----------------|---------|-----------|
| Part NO | Trun Ratio (±3%) | | OCL primary@ 100KHz,0.1V 8mA DC | Leakage primary@ 100KHz,0.1Vrms | Cww (Pri.:Sec.) | DCR (Ω) | |
| | TX | RX | | | | Primary | Secondary |
| KH1610PR | 1CT:1CT | 1CT:1CT | 350uH Min | 0.5uH max | 70pF Max | 0.9 Max | 1.2Max |

| Electrical Specification@25°C Operating Temperature 0 to +70°C | | | | | | | | | |
|--|--|----------------------------|-----|-----|--------|---------------------------|--------|--------------------------------|------------------------------------|
| Part NO | Insertion loss (dB max) 1-100MHz | Return loss(dB min) MHz | | | | CMRR (dB min .) MHz | | Crosstalk (dB min .) MHz | Isolation Voltage (Vrms min) |
| | | 1-30 | 40 | 50 | 60-100 | 1-60 | 60-100 | | |
| KH1610PR | -1.0 | -18 | -16 | -16 | -10 | -35 | -30 | -33 | 1500 |

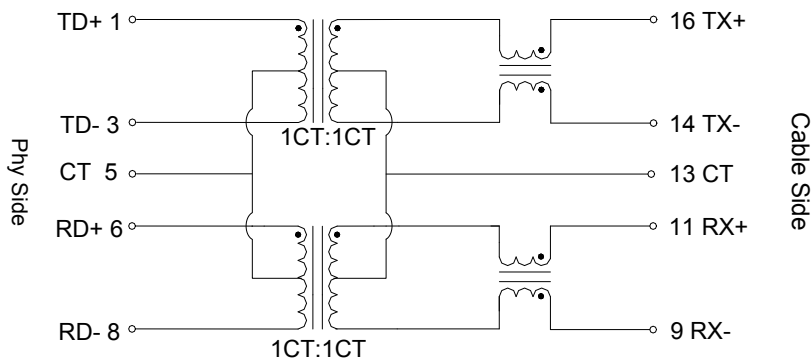
Dimension Unless otherwise specified, all tolerances are ±0.25mm



SUGGESTED PAD LAYOUT

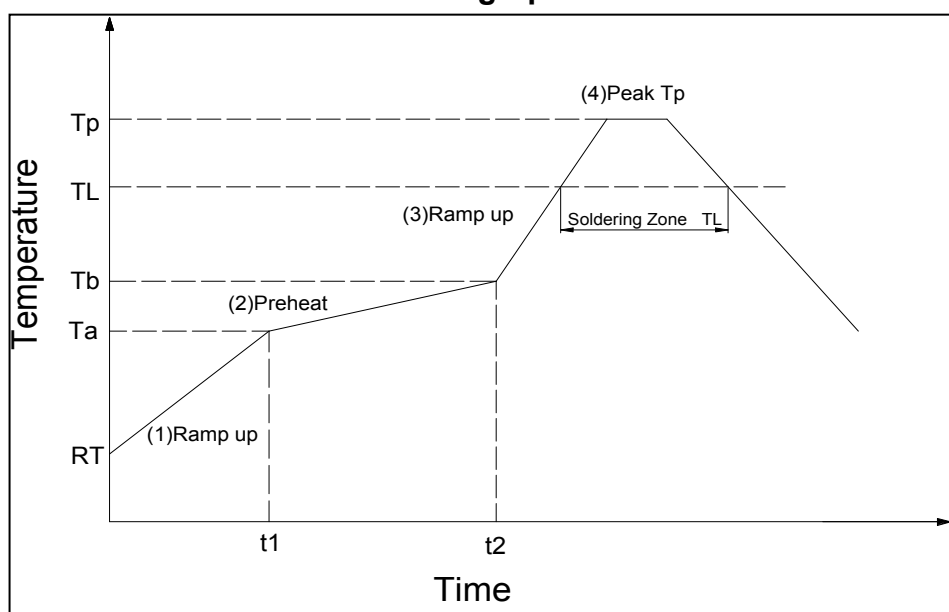


Schematic



5.SUGGEST PROFILE

IR reflow graph



IR reflow profile

Form-1 (Reference JEDEC J-STD-020C Table 5-2)

| IR reflow profile | | Sn-Pb | Pb-free |
|-------------------|--|-----------------------------|---|
| step# | Profile Feature | Condition/Duration | Condition/Duration |
| step1 | Ramp-up rate | 1.5-3°C/sec. | 1.5-3°C/sec. |
| step2 | Preheat : 100~150°C(Ta-Tb) | t1-t2 : 60~120 sec. | t1-t2 : 60~180 sec. |
| step3 | Ramp-up rate(T _L to T _P) | 1.5-3°C/sec. | 1.5-3°C/sec. |
| | Temperature maintained above 183°C(T _L) | T _L : 60-150sec. | T _L : 80-150sec. |
| step4 | Peak temperature(T _P) | 230+5/-10°C | 260+0/-5°C |
| | Time within 5°C of actual peak temperature | 30±10 sec. | 30±10 sec. |
| step5 | Ramp-down rate | 6°C/sec.Max | 6°C/sec.Max |
| Note1 | Subject the samples to 3 cycles of the above defined reflow conditions | | Subject the samples to 3 cycles of the above defined reflow conditions |
| Note2 | Time 25°C to peak temperature : 6 minutes max. | | Time 25°C to peak temperature : 8 minutes max. |
| Note3 | | | The time between reflows shall be 5 minutes minimum and 60minutes maximum |

SnPb Eutectic Process- "Package Peak Reflow Temperature"

Form-2 (Reference JEDEC J-STD-020C Table 4-1)

| 产品厚度 | 产品体积 < 350mm ³ | 产品体积 ≥ 350mm ³ |
|---------|---------------------------|---------------------------|
| < 2.5mm | 240 +0/-5°C | 225 +0/-5°C |
| ≥ 2.5mm | 225 +0/-5°C | 225 +0/-5°C |

Pb-free Process - "Package Peak Reflow Temperature"

Form-3 (Reference JEDEC J-STD-020C Table 4-2)

| 产品厚度 | 产品体积 < 350mm ³ | 产品体积 350mm ³ -2000mm ³ | 产品体积 ≥ 2000mm ³ |
|-------------|---------------------------|--|----------------------------|
| < 1.6mm | 260 +0/-5°C | 260 +0/-5°C | 260 +0/-5°C |
| 1.6mm-2.5mm | 260 +0/-5°C | 250 +0/-5°C | 245 +0/-5°C |
| > 2.5mm | 250 +0/-5°C | 245 +0/-5°C | 245 +0/-5°C |

DGKYD

Dongguan Keyouda Electronic Co.,Ltd

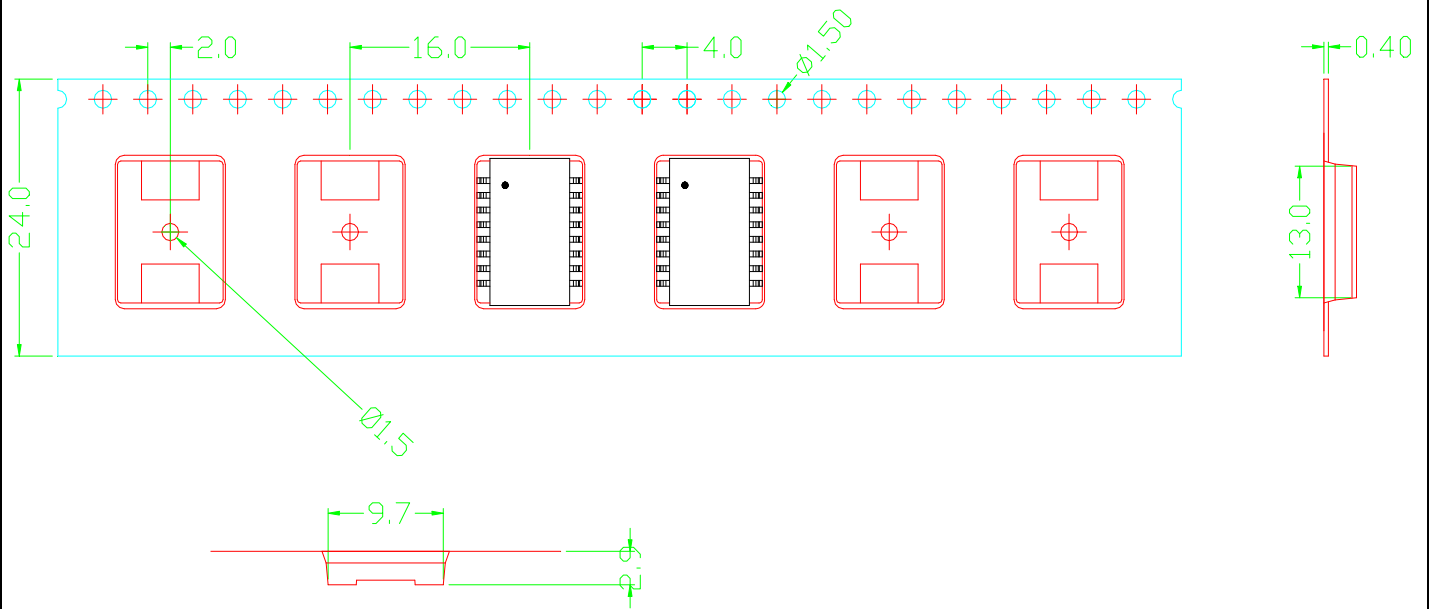
REV: A1

东莞市科优达电子科技有限公司

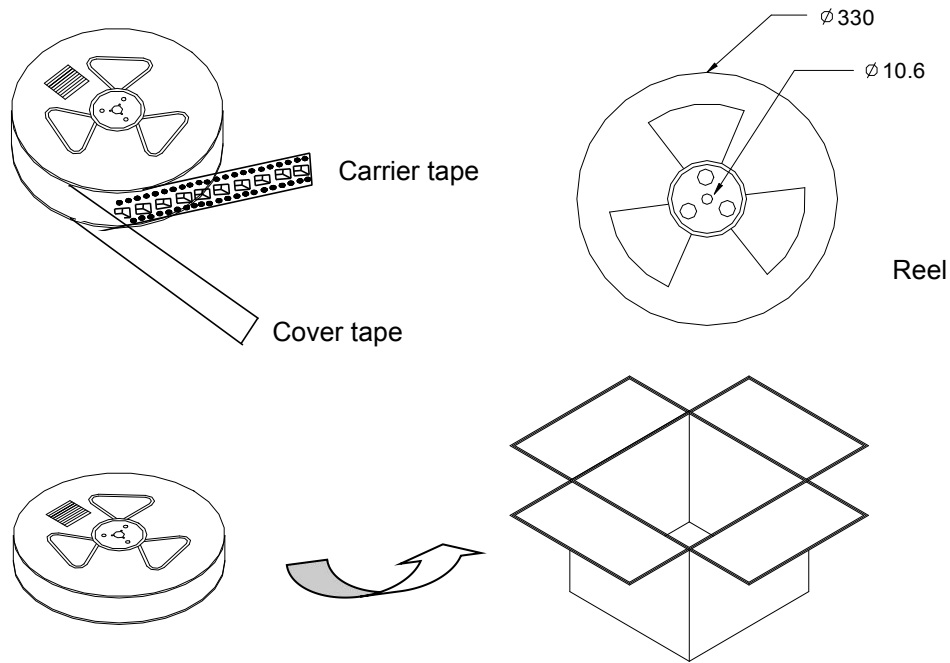
Page: 2 of 4

| 6.Reliability | | | |
|---------------|--|-------------------------------------|---|
| No. | Test Item | Refer To Standard | Test Condition |
| 1 | Resistance To Soldering Heat--Convection Reflow | IPC/JEDEC J-STD-020D | 1).Peak Temperature: Refer to Specification According to Package Body Thickness And Volume 2).Preheat Temperature and Soak Time: 150~200℃,60~120 Seconds 3).Average Ramp-up Rate: 3℃/Second Max 4).Above 217℃: 60~150 Seconds 5).Peak Temperature-5℃: Over 30 S |
| 2 | Thermal Shock | IEC68-2-14 Method A | 1.Low Temperature:-40℃ 2.High Temperature:125 3.Dwell Time:30 Minutes 4.Transition Time: Less Than 5Minutes 5.Number of Cycles: 10 |
| 3 | High Temperature | IEC68-2-2 Method A | 125℃,96Hours |
| 4 | Low Temperature | IEC68-2-1 Method A | -40℃,96Hours |
| 5 | Temperature Humidity Cycle | IEC68-2-38 | Temp Humidity soak time 25~65℃ 93+/-3%RH 1.5 hr 65℃ 93+/-3%RH 4 hr 65~25℃ 80~96%RH 2.5 hr 25~65℃ 93+/-3%RH 1.5hr 65℃ 93+/-3%RH 4hr 65~25℃ 80~96%RH 2 |
| 6 | Vibration | IEC68-2-6 | 1.Sine Wave 2.Amplitude:0.75mm 3.Frequence:5~500~5Hz 4.Direction: X,Y,Z 5.Number of Sweep Cycles Per Direction:10 6.Duration: 2 Hours Each Direction |
| 7 | Mechanical Shock | MIL-STD-202 | 1).Half -Sine Wave 2).Peak Acceleration:50G 3).Duration:11mS 4).Direction: X,Y,Z,-X,-Y,-Z 5).Number of Shock Per Direction:3 |
| 8 | Free Drop | ISO4180 | 1) Height: Refer to Specification According to Production weight 2).1Corner,3Edges,6Faces .Total Are 10 Times |
| 9 | Solderability | JESD22-B102D | 1).Precondition:150±5℃,16±0.5Hours 2).Flux Type:ROL1 3).Immersion Flux Time: 5~10 Seconds 4).Solder Temperature:245±5℃ 5).Solder Immersion Time:5±0.5 Seconds 6).Solder Immersion/Emersion Speed:25.4±6.4mm/Second |
| 10 | Accelerated Moisture Resistance---Unbiased Autoclave | JESD22-A102-C | 1.Temperature:121℃ 2. Humidity: 100% 3. Vapor Pressure: 29.7 Psia or 205KPa 4.Duration:96 hours |
| DGKYD | | Dongguan Keyouda Electronic Co.,Ltd | |
| | | 东莞市科优达电子科技有限公司 | |
| | | REV: A1 | Page: 3 of 4 |

7 CARRIER TAPE



8 PACKAGE



| Product | PCS/Reel | PCS/Box | Product No. | Weigh(g/pcs) |
|------------------|----------|-------------|-------------|--------------|
| SMD 16PIN Series | 1400 | 1400x6=8400 | KH1610PR | |

DGKYD

Dongguan Keyouda Electronic Co.,Ltd

REV: A1

东莞市科优达电子科技有限公司

Page: 4 of 4