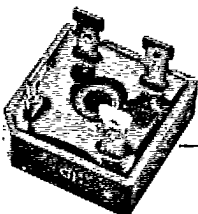
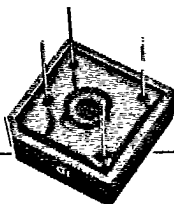


T-23-07

**KBPC10, 15, 25, 35 SERIES****HIGH CURRENT SINGLE - PHASE SILICON BRIDGE RECTIFIERS****FEATURES****KBPC STANDARD**

- ◆ This series is UL recognized under component index, file number E54214
- ◆ The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- ◆ Integrally molded heatsink provide very low thermal resistance for maximum heat dissipation
- ◆ Universal 4-way terminals; snap-on, wrap-around, solder or P.C. board mounting
- ◆ Surge overload ratings to 400 Amperes
- ◆ Terminals solderable per MIL-STD-202, Method 208
- ◆ Typical  $I_R$  less than  $0.1 \mu A$
- ◆ High temperature soldering guaranteed:  $250^\circ C$  / 10 seconds / .375", (9.5mm) lead length / 5lbs., (2.3 kg) tension

**MECHANICAL DATA****KBPC-W WIRE LEADS**

**Case:** Molded plastic with heatsink integrally mounted in the bridge encapsulation

**Terminals:** Either plated .25" (6.35mm). Faston or plated copper leads .040" (1.02mm) diameter. Suffix letter "W" added to indicate leads

**Weight:** .706 ounce, 20 gram

**Mounting Position:** Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency

**Mounting Torque:** 20 in. lb. max.

**Polarity:** Polarity symbols molded on body

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at  $25^\circ C$  ambient temperature unless otherwise specified. 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

|                                                                                       |                                                            | -005 -01 -02 -04 -06 -08 -10 |                              |     |     |     |     |     |               |       |
|---------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------|------------------------------|-----|-----|-----|-----|-----|---------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                |                                                            | $V_{RRM}$                    | 50                           | 100 | 200 | 400 | 600 | 800 | 1000          | Volts |
| Maximum RMS Voltage                                                                   |                                                            | $V_{RMS}$                    | 35                           | 70  | 140 | 280 | 420 | 560 | 700           | Volts |
| Maximum DC Blocking Voltage                                                           |                                                            | $V_{DC}$                     | 50                           | 100 | 200 | 400 | 600 | 800 | 1000          | Volts |
| Maximum Average Forward Rectified Output Current at $T_c = 55^{\circ}C$               | KBPC10<br>KBPC15<br>KBPC25<br>KBPC35                       | $I_{(AV)}$                   | 10.0<br>15.0<br>25.0<br>35.0 |     |     |     |     |     | Amps          |       |
| Peak Forward Surge Current Single sine-wave superimposed on rated load (JEDEC Method) | KBPC10<br>KBPC15<br>KBPC25<br>KBPC35                       | $I_{FSM}$                    | 200<br>300<br>300<br>400     |     |     |     |     |     | Amps          |       |
| Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for Fusing      | KBPC10<br>KBPC15<br>KBPC25<br>KBPC35                       | $I^2t$                       | 160<br>375<br>375<br>660     |     |     |     |     |     | $A^2s$        |       |
| Maximum Instantaneous Forward Voltage drop per element at specified current           | KBPC10 5.0A<br>KBPC15 7.5A<br>KBPC25 12.5A<br>KBPC35 17.5A | $V_F$                        | 1.2                          |     |     |     |     |     | Volts         |       |
| Isolation Voltage from case to leads                                                  |                                                            |                              | 2500                         |     |     |     |     |     | $V_{ac}$      |       |
| Maximum Reverse DC Current at Rated DC Blocking Voltage per element                   |                                                            | $I_R$                        | 10.0                         |     |     |     |     |     | $\mu A$       |       |
| Typical Thermal Resistance (Note 1)                                                   |                                                            | $R_{\theta JC}$              | 2.0                          |     |     |     |     |     | $^{\circ}C/W$ |       |
| Operating and Storage Temperature Range,                                              |                                                            | $T_J, T_{STG}$               | -50 to +150                  |     |     |     |     |     | $^{\circ}C$   |       |

NOTES: 1. Thermal Resistance from Junction to Case.

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**RATINGS AND CHARACTERISTIC CURVES KBPC10,15,25,35 SERIES**

FIG. 1

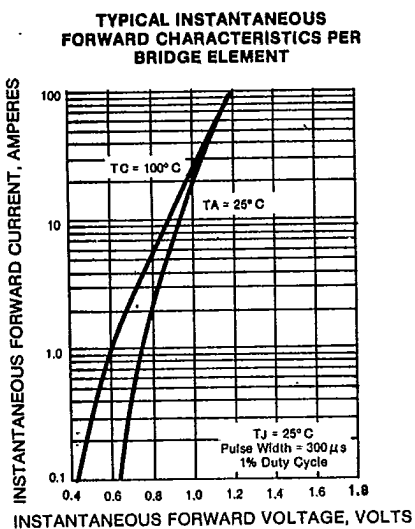


FIG. 2

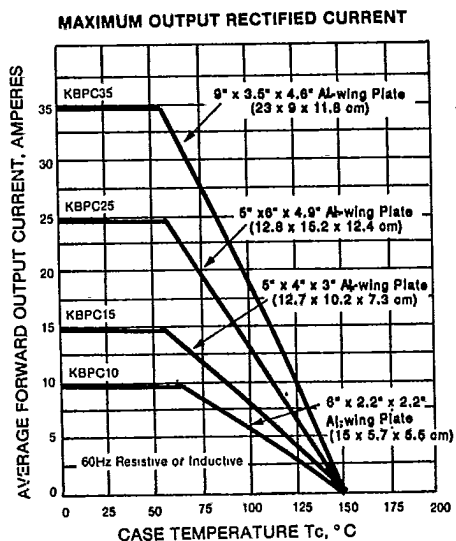


FIG. 3

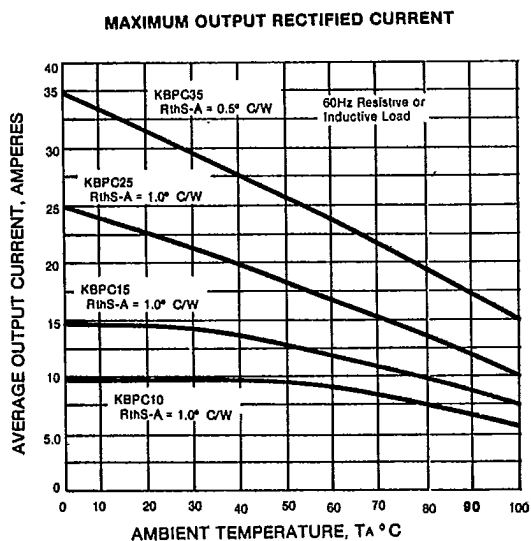
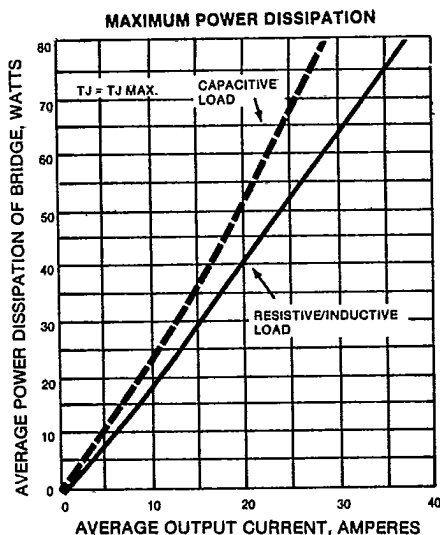


FIG. 4



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**RATINGS AND CHARACTERISTIC CURVES KBPC 10,15,25,35 SERIES**

FIG. 5

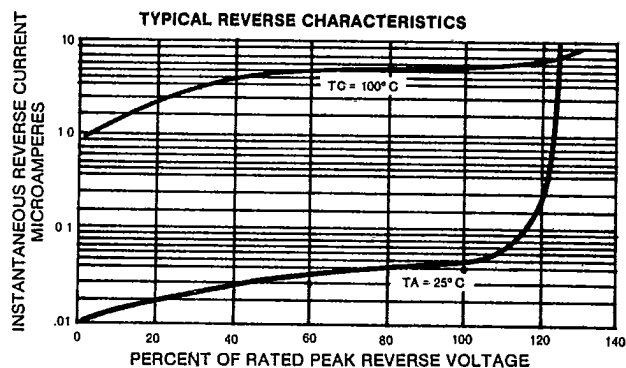


FIG. 6

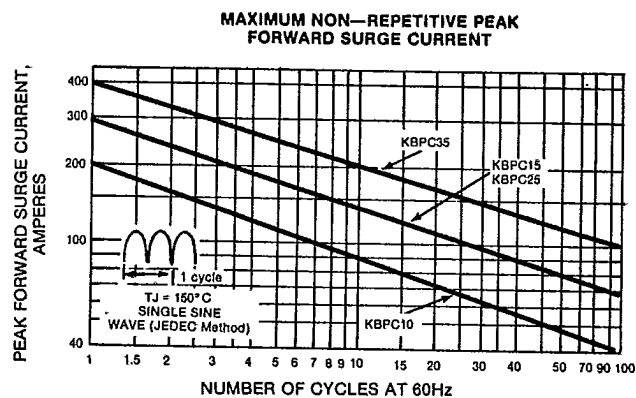
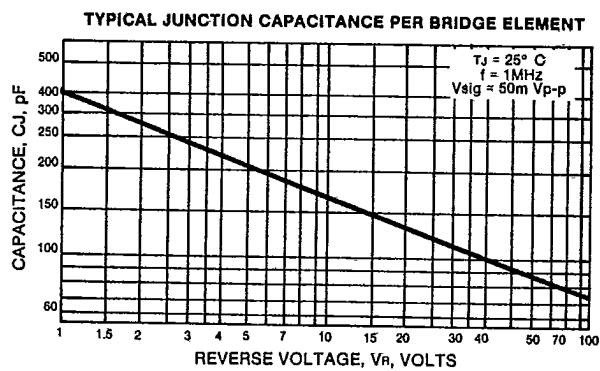


FIG. 7



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FIG. 8  
KBPC

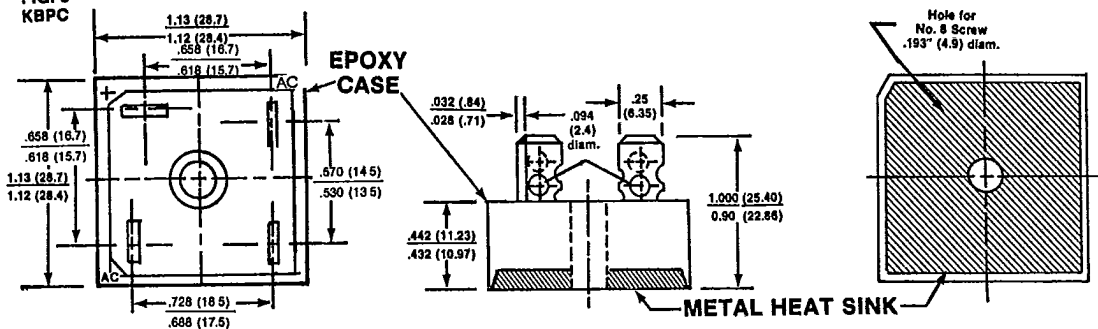
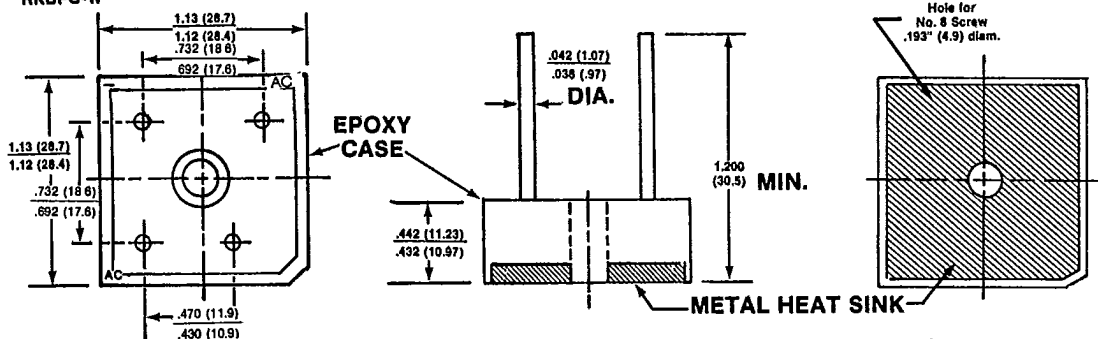


FIG. 9  
RKBPC-W



NOTES:

1. Corrosion resistant terminals designed for .250 female quick connector, wrap around or solder.
2. A thin film of silicone thermal compound is recommended between the bridge case and mounting surface for improved thermal conduction.
3. Higher dielectric strengths available. Consult factory.
4. These bridges are also available in fast recovery and in positive and negative center tap and in doubler configurations. Consult Factory.

Dimensions in inches and (millimeters).

GENERAL  
INSTRUMENT

**PACKAGING CODES**

| <b>PKG.<br/>CODE</b> | <b>PACKAGING DESCRIPTION</b>                                                       |
|----------------------|------------------------------------------------------------------------------------|
| 1 . . . . .          | . Bulk                                                                             |
| 3 . . . . .          | . 26MM Horizontal Taping and Ammo Packing                                          |
| 4 . . . . .          | . Standard Horizontal Reel, Class 1 (Metric 52.4MM)                                |
| 6 . . . . .          | . Avisert, Cathode Up, Cathode First Off Reel                                      |
| 8 . . . . .          | . Avisert, Cathode Up, Cathode First Off Ammo Pack                                 |
| 10 . . . . .         | . Avisert, Cathode Down, Anode First Off Reel                                      |
| 12 . . . . .         | . Avisert, Cathode Down, Anode First Off Ammo Pack                                 |
| 14 . . . . .         | . Panasert, Cathode Up, Cathode First Off Reel                                     |
| 15 . . . . .         | . Panasert, Cathode Up, Anode Off First, Ammo Pack                                 |
| 16 . . . . .         | . Panasert, Cathode Up, Cathode First Off Ammo Pack                                |
| 18 . . . . .         | . Panasert, Cathode Down, Anode First Off Reel                                     |
| 20 . . . . .         | . Panasert, Cathode Down, Anode First Off Ammo Pack                                |
| 22 . . . . .         | . Bulk Pack for Special Axial-Leaded Formed Devices                                |
| 23 . . . . .         | . Standard Horizontal Ammo Pack, Class I (Metric 52.4mm)                           |
| 25 . . . . .         | . GL41 SMD 12MM Tape, 7" Diameter Paper Reel                                       |
| 26 . . . . .         | . GL41 SMD 12MM Tape, 13" Diameter Paper Reel                                      |
| 27 . . . . .         | . SMD, 16 MM Tape, 7" Diameter Reel                                                |
| 28 . . . . .         | . Special Carton Packing method for Tube Packaging Products                        |
| 32 . . . . .         | . GL34 SMD, 8MM Tape, 7" Diameter Paper Reel                                       |
| 33 . . . . .         | . GL34 SMD, 8MM Tape, 13" Diameter Paper Reel                                      |
| 34 . . . . .         | . Tab Mounted EFR8 Chip, 16MM, 13" Diameter Reel                                   |
| 35 . . . . .         | . Bulk, Axial-Leaded Conductive Packaging                                          |
| 36 . . . . .         | . Standard Horizontal Reel, Class 1 (Metric 52.4MM)<br><b>Conductive Packaging</b> |
| 37 . . . . .         | . Bulk, TO-220, TO3P Conductive Tubes                                              |
| 38 . . . . .         | . Bulk, Conductive Packaging for Bridge Rectifier                                  |
| 39 . . . . .         | . Miscellaneous Non-Standard T&R Packaging                                         |
| 40 . . . . .         | . Euroform, Reel, Cathode First Off Reel, Lead Coated                              |
| 42 . . . . .         | . Euroform, Reel, Cathode Last Off Reel, Lead Coated                               |
| 44 . . . . .         | . Standard Horizontal Reel (Metric) 5MM Component Spacing<br>for DO-201 Packages   |
| 45 . . . . .         | . Tube Packaging for TO-220, TO-3P, and In Line Bridge Rectifier                   |
| 46 . . . . .         | . GL41 SMD 12MM Tape, 7" Diameter Plastic Reels                                    |
| 47 . . . . .         | . GL41 SMD 12MM Tape, 13" Diameter Plastic Reels                                   |
| 48 . . . . .         | . GL34 SMD 8MM Tape, 7 " Diameter Plastic Reels                                    |
| 49 . . . . .         | . GL34 SMD 8MM Tape, 13" Diameter Plastic Reels                                    |

*Also available for all packaging Electro-Static-Protection by adding the number "50" to the existing codes.  
For example, "51" would be Bulk, Electro-Static Packaging. "54" would be T/R, Electro-Static Packaging.*

**GENERAL  
INSTRUMENT**

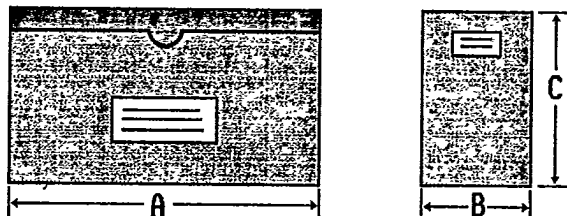


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## NEW BULK PACKAGES

| DEVICE TYPE                          |                           | BOX SIZE            |                   | QUANTITY  | GROSS WEIGHT |          |
|--------------------------------------|---------------------------|---------------------|-------------------|-----------|--------------|----------|
|                                      |                           | INCHES              | CM                | EA.       | LBS.         | KG       |
| GL34 SURFACE MOUNT                   |                           | 8.0 x 3.5 x 1.0     | 20.3 x 8.8 x 2.54 | 8000      | 0.55         | 0.25     |
| GL41 SURFACE MOUNT                   |                           | 8.0 x 3.5 x 1.0     | 20.3 x 8.8 x 2.54 | 4000      | 1.03         | 0.47     |
| DO15                                 |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 4000      | 3.85         | 1.75     |
| DO201AD                              |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 1500      | 4.41         | 2.0      |
| DO204AP                              |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 4000      | 3.75         | 1.7      |
| DO204MB                              |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 5000      | 3.15         | 1.45     |
| DO41/MPG06                           |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 5000      | 2.38/2.20    | 1.08/1.0 |
| G4/G3                                |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 3000/2000 | 5.07/5.29    | 2.32/2.4 |
| GP20                                 |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 1500      | 3.75         | 1.7      |
| J, JTX1N483B, 1N645, 1N645-1         |                           | 8.0 x 3.5 x 1.0     | 20.3 x 8.8 x 2.54 | 1000      | 0.77         | 0.35     |
| J, JTX1N3611, 1N4245, 1N5614         |                           | 8.0 x 3.5 x 1.0     | 20.3 x 8.8 x 2.54 | 500       | 0.55         | 0.25     |
| J, JTX1N4942, 1N5615, 1N5802         |                           | 8.0 x 3.5 x 1.0     | 20.3 x 8.8 x 2.54 | 500       | 0.55         | 0.25     |
| J, JTX1N5415, 1N5550, 1N5825, 1N5807 |                           | 12.0 x 3.6 x 2.5    | 30.4 x 9.1 x 6.3  | 1000      | 2.50         | 1.1      |
| P600                                 |                           | 11.75 x 5.125 x 2.5 | 29.8 x 13.0 x 6.3 | 750       | 3.72         | 1.69     |
| P6KE                                 |                           | 11.75 x 3.5 x 1.0   | 29.8 x 8.8 x 2.54 | 2000      | 1.93         | 0.87     |
| DF-MDF-S                             | ANTI-STATIC PLASTIC TUBES | 19.0 LENGTH         | 48.2 LENGTH       | 50        | 0.12         | 0.05     |
| TO-220, CT                           | ANTI-STATIC PLASTIC TUBES | 20.5 LENGTH         | 52.0 LENGTH       | 50        | 0.306        | 0.14     |
| TO3P                                 | ANTI-STATIC PLASTIC TUBES | 20.5 LENGTH         | 52.0 LENGTH       | 30        | 0.572        | 0.26     |
| KBPM/2KBPM                           | ANTI-STATIC PLASTIC TUBES | 18.5 LENGTH         | 47.0 LENGTH       | 30        | 0.21         | 0.09     |
| AR,ARS                               | PLASTIC BAGS              |                     |                   | 200       | 0.84         | 0.38     |
| WM, WG                               | PLASTIC BAGS              |                     |                   | 100       | 0.37         | 0.17     |
| GPP1, EFR1, 3, 5                     | CHIP TRAY                 | 2.0 x 2.0 x .35     | 5.1 x 5.1 x 0.9   | 100       | 0.042        | 0.019    |
| GPP5, EFR8                           | CHIP TRAY                 | 2.0 x 2.0 x .35     | 5.1 x 5.1 x 0.9   | 100       | 0.044        | 0.020    |
| BO                                   | PAPER BOX                 | 9.2 x 5.0 x 2.5     | 23.4 x 12.7 x 6.3 | 100       | 3.09         | 1.4      |
| KBU4, 6, 8                           | PVC TRAY                  | 12.2 x 6.1 x 1.5    | 30.9 x 15.5 x 3.8 | 250       | 4.63         | 2.1      |
| KBL                                  | PVC TRAY                  | 12.2 x 6.1 x 1.5    | 30.9 x 15.5 x 3.8 | 300       | 4.19         | 1.9      |
| KBPC1035W                            | PVC TRAY                  | 12.4 x 12.4 x 1.4   | 31.4 x 31.4 x 3.6 | 100       | 5.07         | 2.3      |
| KBPC8                                | PVC TRAY                  | 12.4 x 12.4 x 1.1   | 31.4 x 31.4 x 2.9 | 200       | 3.31         | 1.5      |
| KBPC1, KBPC6                         | PVC TRAY                  | 12.4 x 12.4 x .88   | 31.4 x 31.4 x 2.2 | 250       | 1.94/2.64    | .88/1.2  |
| KBPC 10/35                           | PVC TRAY                  | 12.4 x 12.4 x 1.4   | 31.4 x 31.4 x 3.6 | 100       | 5.29         | 2.4      |

## AMMO BOX PACKAGING



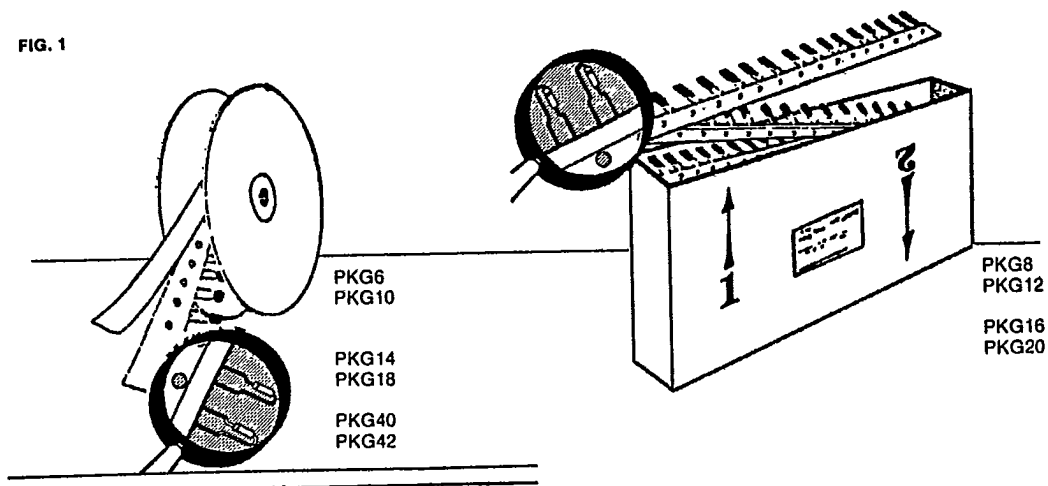
| Packaging                              | Available Product Outlines                              | Packaging Codes                      | Dimension "A"    | Dimension "B"  | Dimension "C"   | Quantity Box         |
|----------------------------------------|---------------------------------------------------------|--------------------------------------|------------------|----------------|-----------------|----------------------|
| 26MM Horizontal Ammo Pack              | DO-41<br>GI, DO-15                                      | PKG 3                                | 9.7"<br>(247MM)  | 1.7"<br>(44MM) | 3.7"<br>(95MM)  | 3K<br>1.5K           |
| 52MM Horizontal Ammo Pack              | G1, DO-41<br>DO15<br>DO201AD, G3<br>P600                | PKG 23                               | 10.0"<br>(254MM) | 3.1"<br>(79MM) | 4.3"<br>(110MM) | 3K<br>2K<br>1K<br>3K |
| Vertical (Avisert, Panasert) Ammo Pack | GP10-E, RGP10-E<br>0.25" (0.65MM) Lead<br>Diameter Only | PKG 8, 9<br>12, 13, 16<br>17, 20, 21 | 12.9"<br>(328MM) | 1.7"<br>(42MM) | 7.9"<br>(200MM) | 2K                   |

GENERAL  
INSTRUMENT

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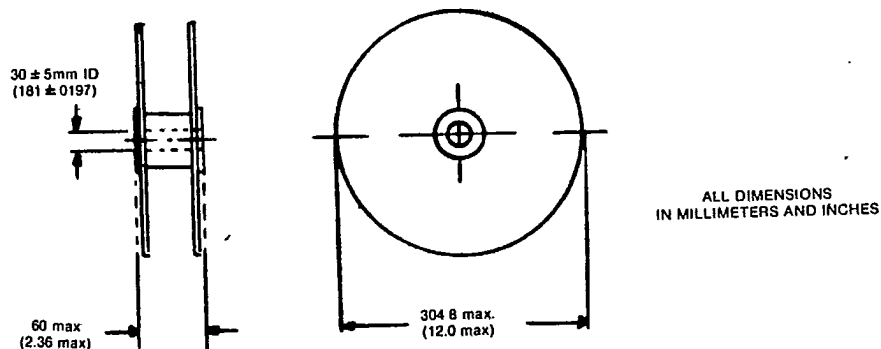
**PACKAGING METHODS FOR VERTICLE TAPING**

FIG. 1



Avisert: PKG6 Panasert: PKG14 Euroform: PKG40  
 PKG8 PKG16 PKG41  
 PKG10 PKG18 PKG42  
 PKG12 PKG20 PKG43

FIG. 2



Package per EIA JEDEC standard RS-468 Available on reels or fan fold box (ammo pack)

Available only for DO41 case style products utilizing 0.65mm (.025") or 0.76mm (.30") diameter leads for Panasert and Avisert Tape and Reeling.

Available only for GP10 products only utilizing 0.65mm (.025") diameter leads for Euroform Tape and Reeling by adding suffix "E" (GP10GE, 1N4004GPE)

**GENERAL  
INSTRUMENT**



T-91-20

VERTICLE REEL PACKAGING

ALL DIMENSIONS  
IN MILLIMETERS AND (INCHES)

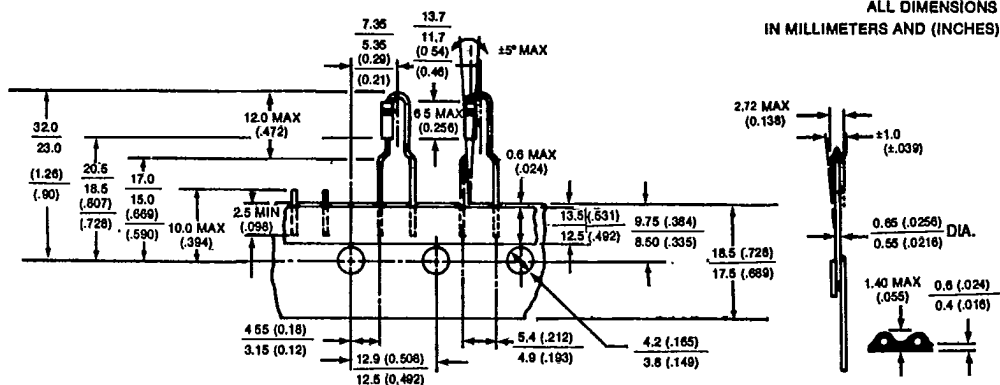


FIG. 3 - EURO FORM

Available only for GP10 products utilizing 0.65mm (.025) diameter leads for Euroform Tape and Reeling by adding suffix "E" (GP10GE, 1N4004GPE). Lead coating is standard.

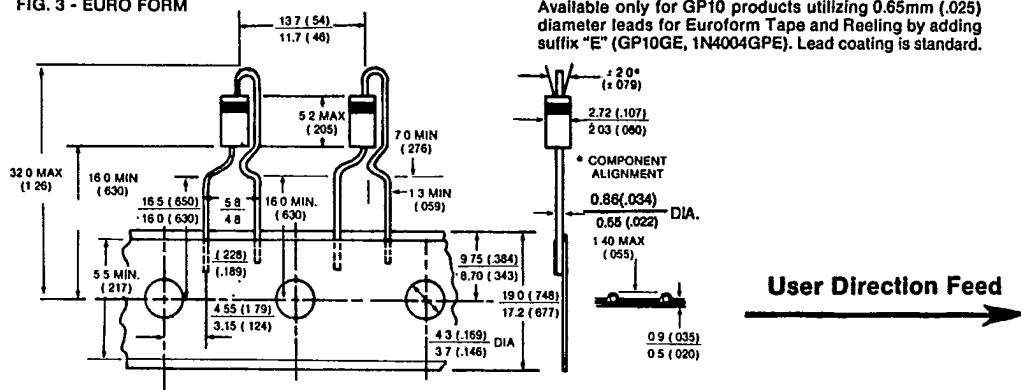


FIG. 4 - PANASERT

Available only for DO41 case style products utilizing 0.65mm (.025) or 0.76mm (.30) diameter leads for Panasert and Avisert Tape and Reeling. Lead coating is not available.

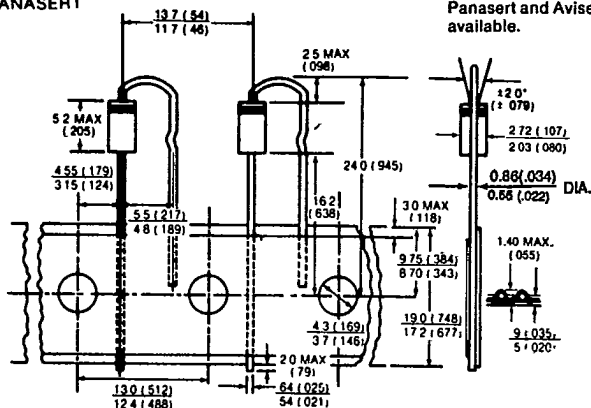


FIG. 5 - AVISERT

Standard polarity cathode oriented away from sprocket holes  
(Optional polarity cathode oriented toward sprocket holes)

GENERAL  
INSTRUMENT

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SURFACE MOUNT PACKAGING

Packed per EIA/JEDEC Standard RS-481

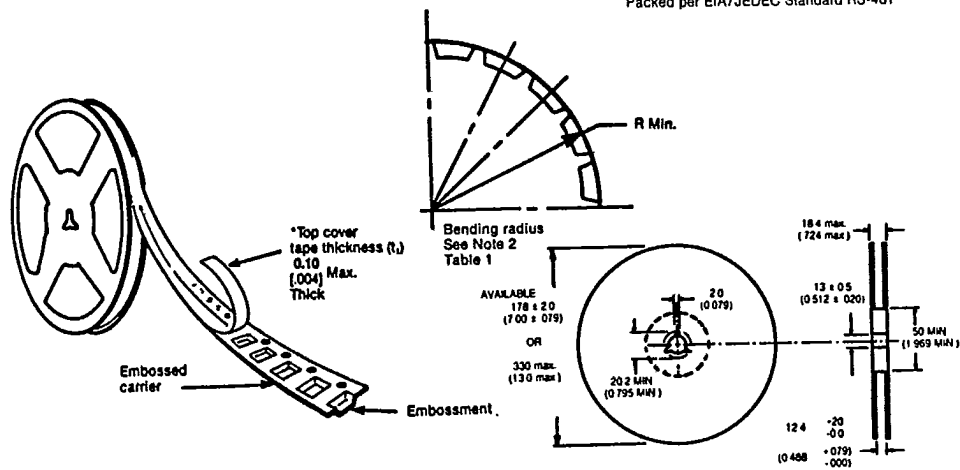
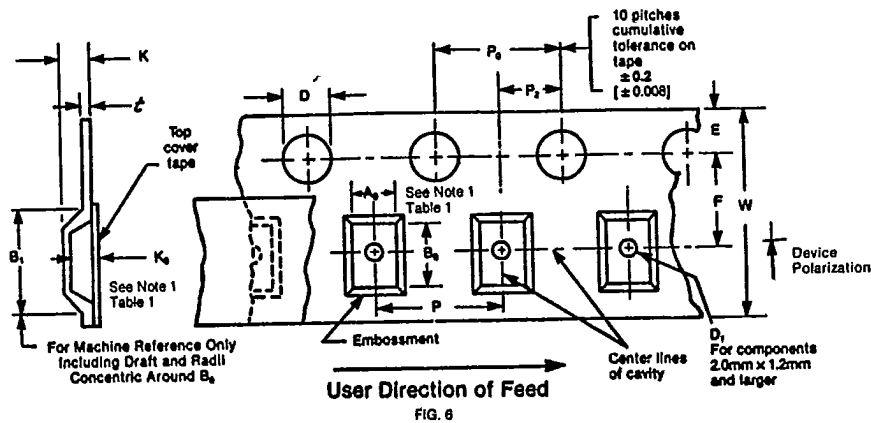


Table 1

| 8, 12, 16, MM Embossed Tape |               |                          |                          |                         |                       |                         |               |                         |          | All Dimensions in Millimeters and (Inches) |  |
|-----------------------------|---------------|--------------------------|--------------------------|-------------------------|-----------------------|-------------------------|---------------|-------------------------|----------|--------------------------------------------|--|
| Tape Size                   | D             | E                        | Po                       | t                       | Ao Bo Ko              |                         |               |                         |          | Constant Dimensions                        |  |
| 8, 12, MM                   | 1.5<br>(.059) | 1.75±0.10<br>(.069±.004) | 4.0±.10<br>(.157 ± .004) | 0.400<br>(.016)         | See Note 1<br>Table 2 |                         |               |                         |          |                                            |  |
| Product Type                | Tape Size     | Max. B <sub>1</sub>      | Min. D <sub>1</sub>      | F                       | Max. K                | P <sub>2</sub>          | Min. R        | W                       | P        | Variable Dimensions                        |  |
| GL34                        | 8MM           | 4.2<br>(.165)            | 1.0<br>(.039)            | 3.5±0.05<br>(.138±.002) | 2.4<br>(.094)         | 2.0±0.05<br>(.079±.002) | 25<br>(.984)  | 8.0±.30<br>(.315±.012)  | 4.0±0.10 |                                            |  |
| GL41                        | 12MM          | 8.2<br>(.323)            | 1.5<br>(.059)            | 5.5±0.05<br>(.217±.002) | 4.5<br>(.177)         |                         | 30<br>(1.181) | 12.0±.30<br>(.472±.012) |          |                                            |  |

es:  
to Bo Ko are determined by component size. The clearance between the component and the cavity must be within 0.05 min. to 0.5 max. for 8MM tape and  
i min to 0.650 max. for 12 MM tape.  
dition the components cannot rotate more than 20° within the determined cavity.  
ape and components will pass around radius "R" without damage.



GENERAL  
INSTRUMENT