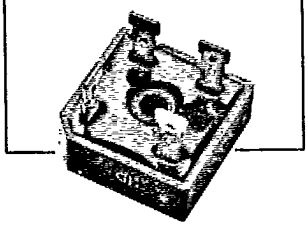
T-23-07

KBPC10, 15,25,35 SERIES

HIGH CURRENT SINGLE - PHASE SILICON BRIDGE RECTIFIERS

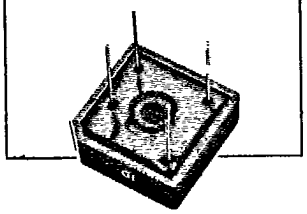
FEATURES

KBPC STANDARD



- This series is UL recognized under component index, file number E54214
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-O
- 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 μA
- High temperature soldering guaranteed: 250° C /10 seconds / .375", (9.5mm) lead length / 5lbs., (2.3 kg) tension

KBPC-W WIRE LEADS



MECHANICAL DATA

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°C ambient temperature unless otherwise specified . 60 Hz, resistive or inductive load. For capaacitive 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 at T_C = 55°C	KBPC10	$I_{(AV)}$				10.0				Amps
	KBPC15					15.0				
	KBPC25					25.0				
	KBPC35					35.0				
Peak Forward Surge Current Single sine-wave superimposed on rated load (JEDEC Method)	KBPC10	I_{FSM}				200				Amps
	KBPC15					300				
	KBPC25					300				
	KBPC35					400				
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for Fusing	KBPC10	I^2t				160				A^2s
	KBPC15					375				
	KBPC25					375				
	KBPC35					660				
Maximum Instantaneous Forward Voltage drop per element at specified current	KBPC10 5.0A	V_F				1.2				Volts
	KBPC15 7.5A									
	KBPC25 12.5A									
	KBPC35 17.5A									
Isolation Voltage from case to leads						2500				V_{ac}
Maximum Reverse DC Current at Rated DC Blocking Voltage per element		I_R				10.0				μA
Typical Thermal Resistance (Note 1)		RΘJC				2.0				°C/W
Operating and Storage Temperature Range,		T_J,T_{STG}				-50 to +150				°C

NOTES: 1. Thermal Resistance from Junction to Case.

This Material Copyrighted By Its Respective Manufacturer

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

FIG. 1

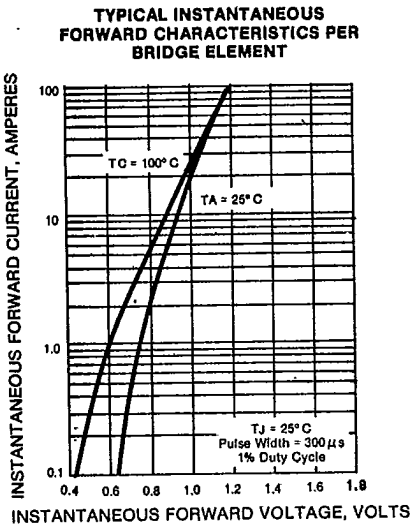


FIG. 2

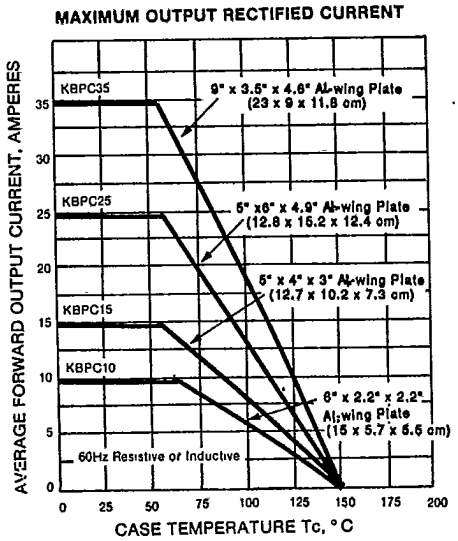


FIG. 3

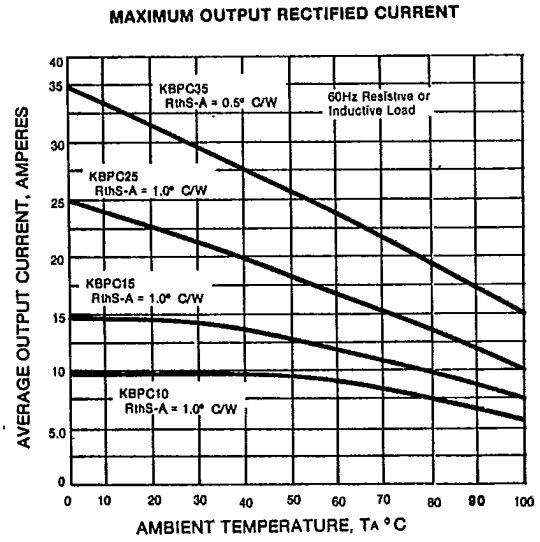
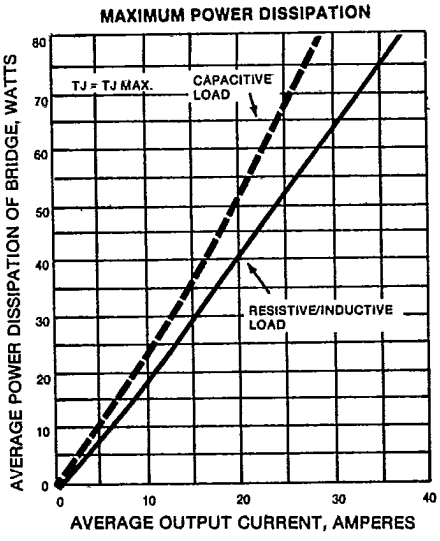


FIG. 4



This Material Copyrighted By Its Respective Manufacturer

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

FIG. 5

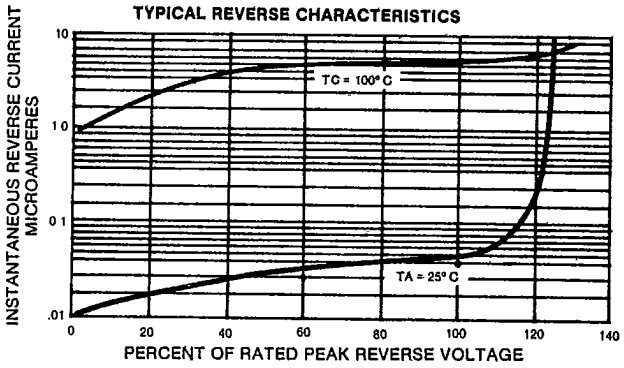


FIG. 6

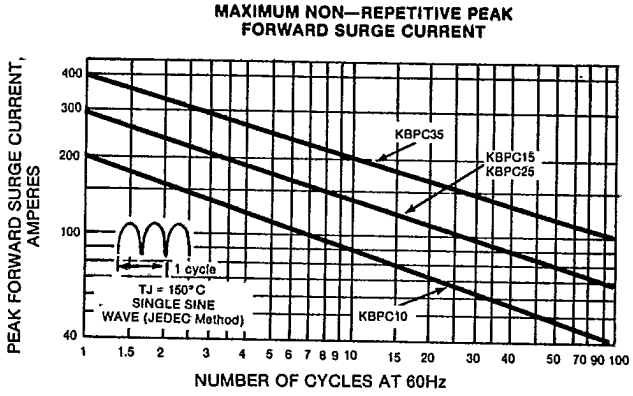
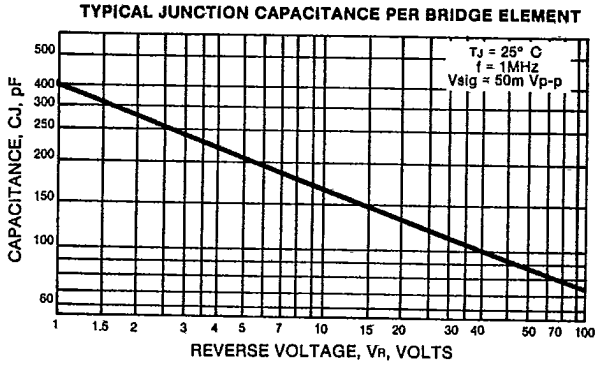


FIG. 7



This Material Copyrighted By Its Respective Manufacturer

FIG. 8
KBPC

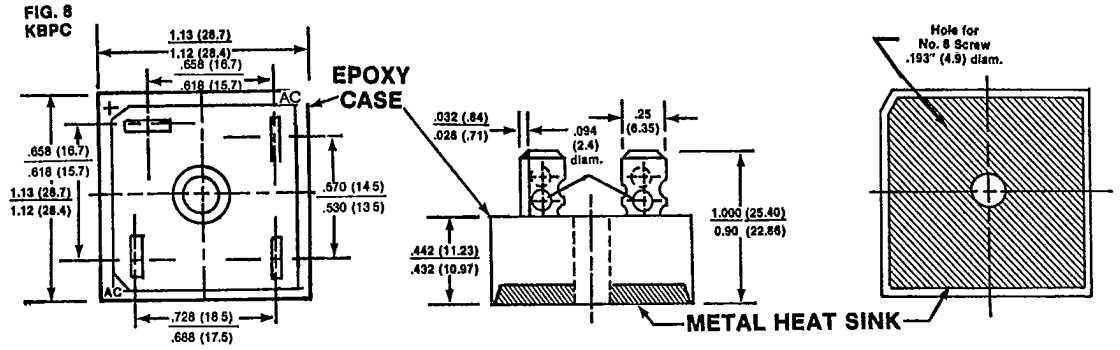
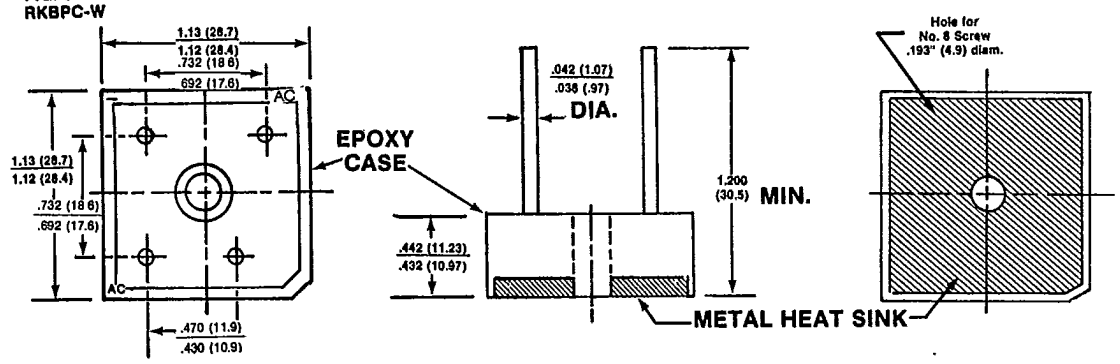


FIG. 9
RKBPC-W



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

This material copyrighted by its respective manufacturer

PACKAGING CODES

PKG. CODE	PACKAGING DESCRIPTION
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) **Conductive Packaging**
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 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

Data Material copyrighted by its respective manufacturer

T-91-20

REEL PACKAGING

Axial leaded devices are packed in accordance with EIA Standard RS-296-E and the diagrams given below which refer to these specifications.

Table 1

COMPONENT CASE TYPE	UNITS PER REEL	COMPONENT SPACING "A" FIG. 1		TAPE SPACING "B" FIG. 1		REEL DIMENSION "D" FIG.2		MAX. OFF ALIGNMENT "E"FIG. 1		GROSS WEIGHT PER REEL	
	ea.	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
1.5KA (PAR)	2000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	7.1	3.2
DO15	3500	.200	5.0	2.06	52.4	12.0	305	.047	1.2	4.00	1.81
DO201AD	1200	.395	10.0	2.06	52.4	12.0	305	.047	1.2	3.60	1.63
DO204AP	4000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	5.80	2.60
DO204MB	4000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	3.74	1.70
DO41	5000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	4.80	2.20
G3/G4	1500	.395	10.0	2.06	52.4	12.0	305	.047	1.2	4.80/4.40	2.20/2.00
GL34 Surface Mount	2500/7000	.157	4.0	—	—	7/13	178/330	See Fig. 6		.471/1.49	.214/.68
GL41 Surface Mount	1500/5000	.157	4.0	—	—	7/13	178/330	See Fig . 6		.471/1.49	.214/.68
GP10E Vertical	2000	.500	12.7	—	—	12.0	305	.079	2.0	2.29	1.04
GP10E Horizontal	4000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	3.04	1.38
GP20	1200	.395	10.0	2.06	52.4	12.0	305	.047	1.2	4.40	2.00
MPG06	5000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	3.74	1.70
P600	700	.395	10.0	2.06	52.4	12.0	305	.047	1.2	5.00	2.30

Table 2
Metric Spec

Component Body Diameter	Components Spacing "A"(Lead to Lead)	Inside Tape Spacing "B"	Cumulative Pitch Tolerance
0mm to 5mm (0" to .197")	5.0mm+0.5mm (.197"+.020")	26mm+0.75mm (1.024"+.030")	Not to
0mm to 5mm (0"to.197")	5.0mm+0.5mm (.197"+.020"	52.4mm+1.5mm (2.062"+.059")	Exceed 1.5mm (.059") over
5.01mm to 10mm (.197" to .394")	10mm+0.5mm (.394" ± .020")	52.4mm+1.5mm (2.062"±.059")	6 Consecutive

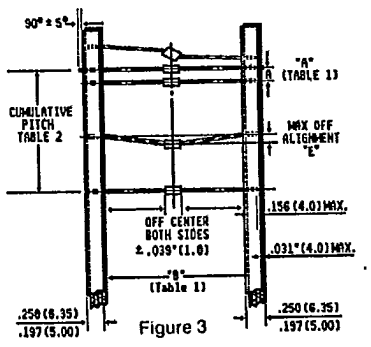


Figure 3

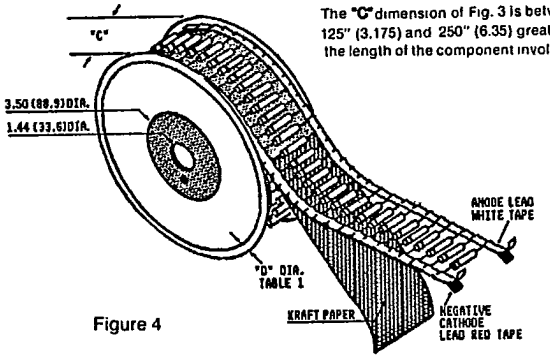


Figure 4

The "C" dimension of Fig. 3 is between .125" (3.175) and .250" (6.35) greater than the length of the component involved

Dimensions in inches and (millimeters)

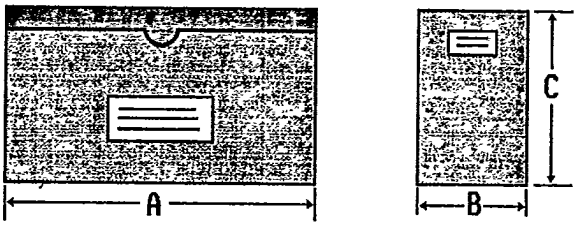
GENERAL INSTRUMENT

This Material Copyrighted By Its Respective Manufacturer

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	2.3/2.4
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, 1N5625, 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	3.7 2	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-M/DF-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
BC PAPER BOX	9.2 x 5.0 x 2.5	23.4 x 12.7 x 6.3	100	3.08	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



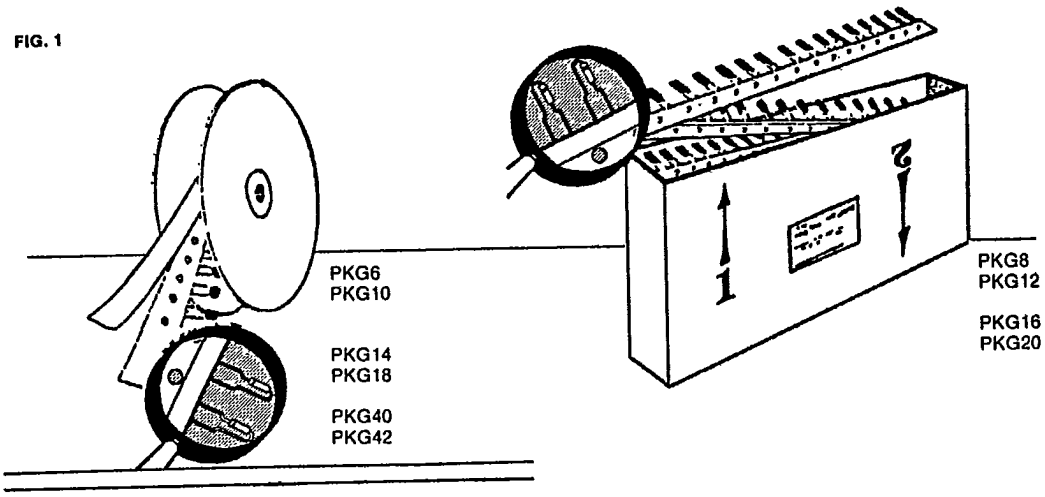
Packaging	Available Product Outlines	Packaging Codes	Dimension "A"	Dimension "B"	Dimension "C"	Quantity Box
26MM Horizontal Ammo Pack	DO-41 GI, DO-15	PKG 3	9.7" (247MM)	1.7" (44MM)	3.7" (95MM)	3K 1.5K
52MM Horizontal Ammo Pack	G1, DO-41 DO15 DO201AD, G3 P600	PKG 23	10.0" (254MM)	3.1" (79MM)	4.3" (110MM)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

GENERAL INSTRUMENT

This Material copyrighted by Its Respective Manufacturer

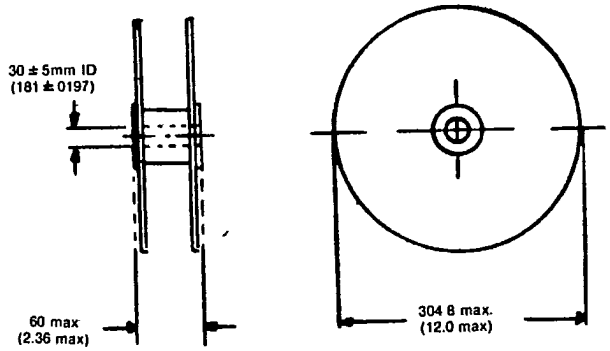
PACKAGING METHODS FOR VERTICLE TAPING

FIG. 1



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

FIG. 2



ALL DIMENSIONS
IN MILLIMETERS AND INCHES

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

This Material Copyrighted By Its Respective Manufacturer

VERTICLE REEL PACKAGING

ALL DIMENSIONS
IN MILLIMETERS AND (INCHES)

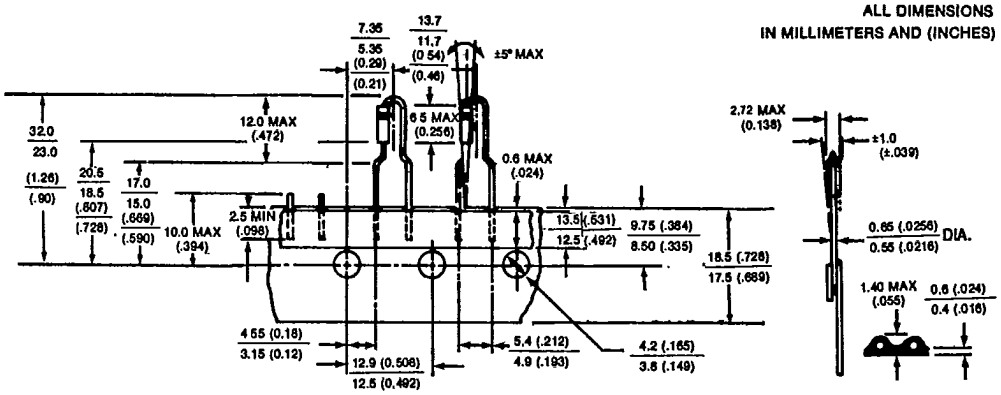
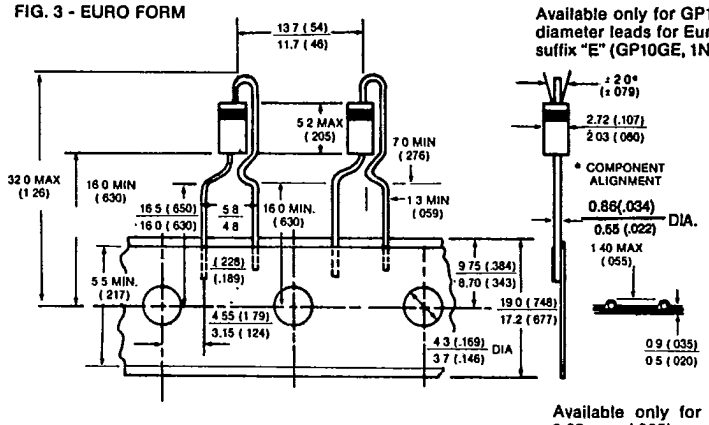


FIG. 3 - EURO FORM

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.



User Direction Feed

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.

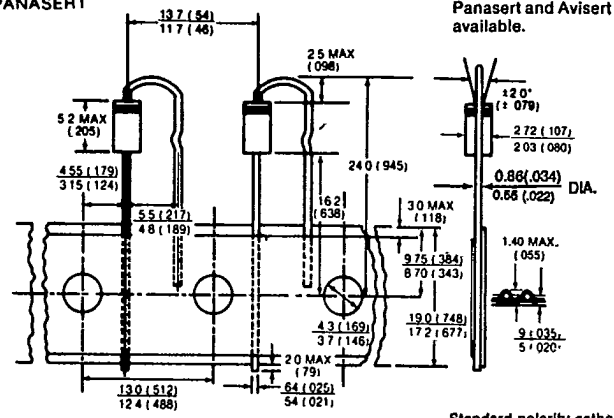


FIG. 5 — AVISERT

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

GENERAL INSTRUMENT

This material copyrighted by its respective manufacturer

T-91-20

SURFACE MOUNT PACKAGING

Packed per EIA/JEDEC Standard RS-481

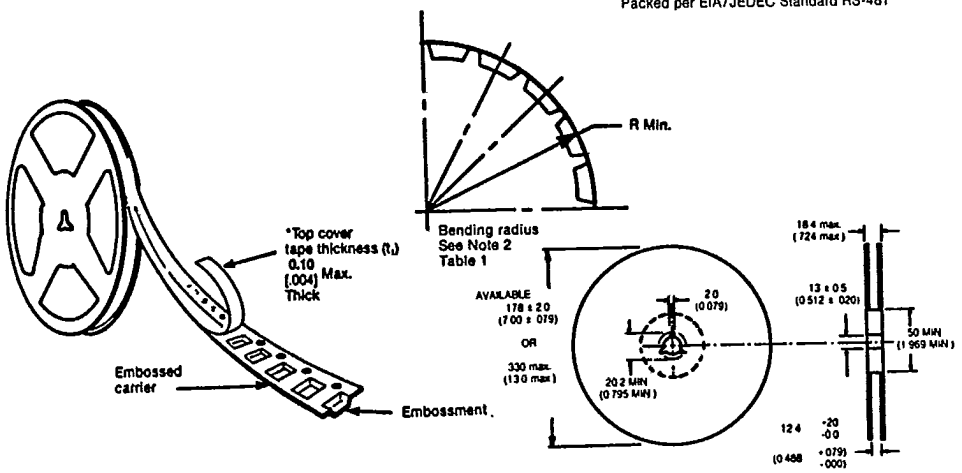


Table 1

8, 12, 16, MM Embossed Tape — All Dimensions in Millimeters and (Inches)

Tape Size	D	E	Po	t	Ao Bo Ko				
8, 12, MM	1.5 (.059)	1.75±0.10 (.069±.004)	4.0±.10 (.157 ± .004)	0.400 (.016)	See Note 1 Table 2				Constant Dimensions

Product Type	Tape Size	Max. B¹	Min. D¹	F	Max. K	P²	Min. R	W	P	Variable Dimensions
GL34	8MM	4.2 (.165)	1.0 (.039)	3.5±0.05 (.138±.002)	2.4 (.094)	2.0±0.05 (.079±.002)	25 (.984)	8.0±.30 (.315±.012)	4.0±0.10	
GL41	12MM	8.2 (.323)	1.5 (.059)	5.5±0.05 (.217±.002)	4.5 (.177)		30 (1.181)	12.0±.30 (.472±.012)		

es:
ıo 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
ı min to 0.650 max. for 12 MM tape.
ıddition the components cannot rotate more than 20° within the determined cavity.
'ape and components will pass around radius "R" without damage.

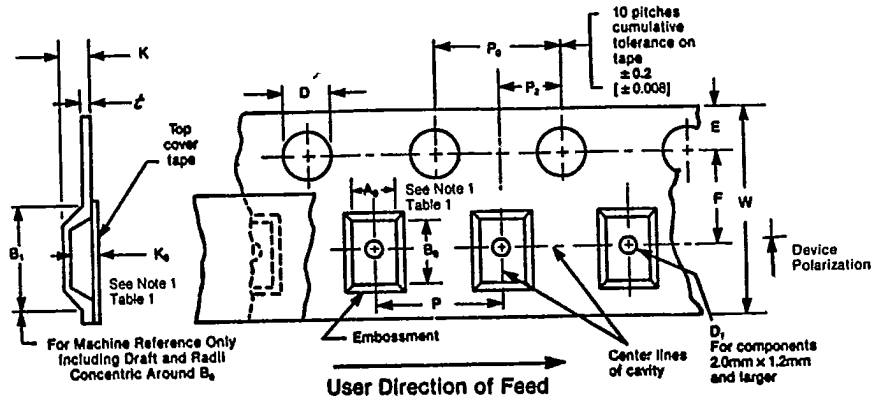


FIG. 6

GENERAL INSTRUMENT

This material copyrighted by its respective manufacturer