

T-01-05

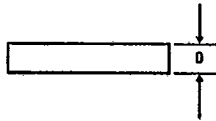
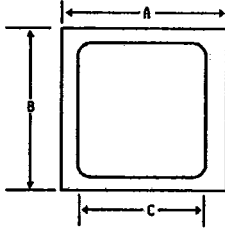
GPP1 & GPP5 SERIES

GLASS PASSIVATED RECTIFIER CHIPS

Voltage - 50 to 1000 Volts Current - 1.0 and 5.0 Amperes

FEATURES

- ◆ Ideal for Hybrid Circuits
- ◆ Solderable Metallization
- ◆ Typical I_R less than 1 μ A
- ◆ Glass Passivated Junction
- ◆ High Surge Capability
- ◆ Mounting Postion: Any



METALLIZATION: GOLD ON NICKEL

	Dimension A	Dimension B	Dimension C	Dimension D
GPP1	.062 (1.6)	.062 (1.6)	.048 (1.2)	.010 (.25)
	.058 (1.5)	.058 (1.5)	.044 (1.1)	.008 (.20)
GPP5	.102 (2.6)	.102 (2.6)	.088 (2.2)	.010 (0.25)
	.098 (2.5)	.098 (2.5)	.082 (2.1)	.008 (0.20)

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

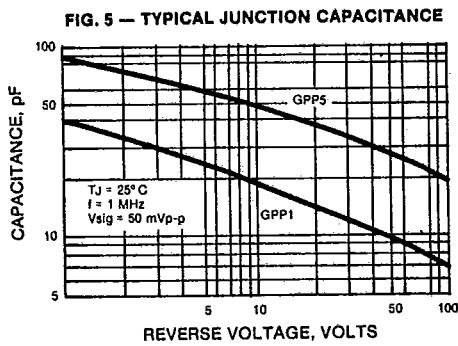
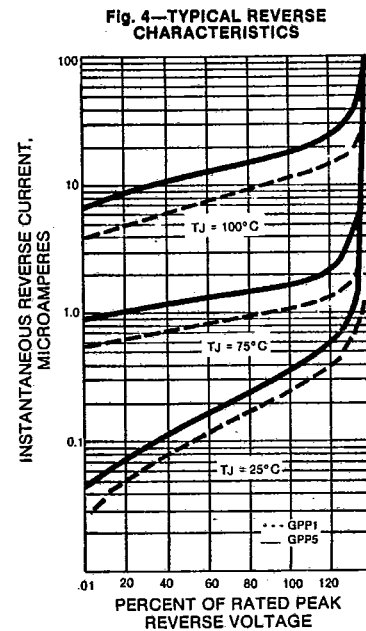
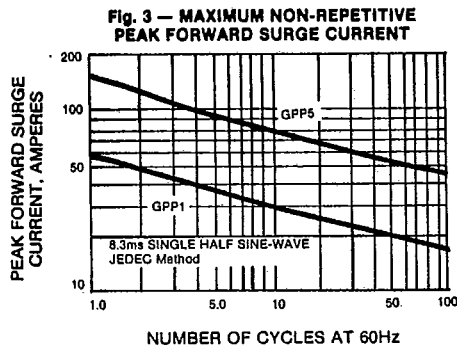
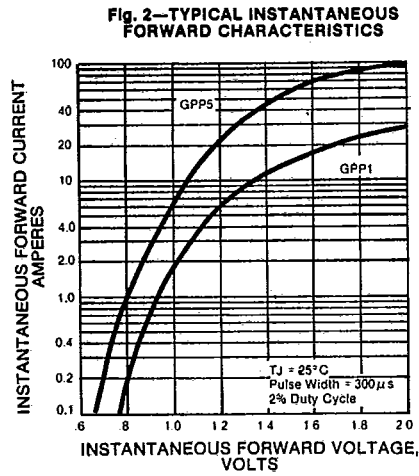
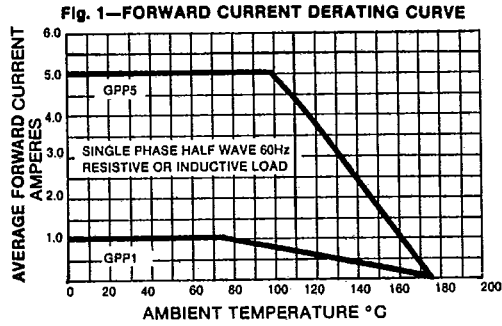
		GPP1A	GPP1B	GPP1D	GPP1G	GPP1J	GPP1K	GPP1M	UNITS
	SYMBOLS	GPP5A	GPP5B	GPP5D	GPP5G	GPP5J	GPP5K		
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current (Note 1)	$I_{(AV)}$	GPP1 $T_A = 75^\circ C$		1.0					Amps
		GPP5 $T_A = 100^\circ C$		5.0					
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	GPP1		60.0					Amps
		GPP5		150.0					
Maximum Instantaneous Forward Voltage at specified current	V_F	GPP1 $I_F = 1.0A$		1.1					Volts
		GPP5 $I_F = 5.0A$		1.1					
Maximum Reverse Leakage Current at Rated DC Blocking Voltage	I_R	GPP1		5.0					μA
		GPP5		10.0					
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175							$^\circ C$

NOTES:

1. Actual rating is heat sink dependent.

T-01-05

**RATINGS AND CHARACTERISTIC CURVES GPP1A THRU GPP1M
GPP5A THRU GPP5K**



GENERAL INSTRUMENT

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**

T-91-20

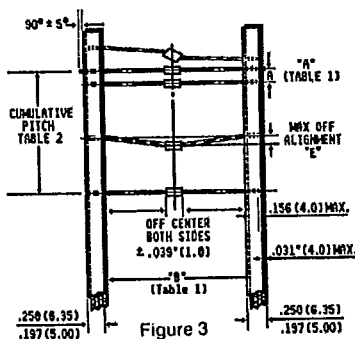
REEL PACKAGING

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

COMPONENT CASE TYPE	UNITS PER REEL	COMPONENT SPACING "A" FIG. 1		Table 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



Dimensions in inches and (millimeters)

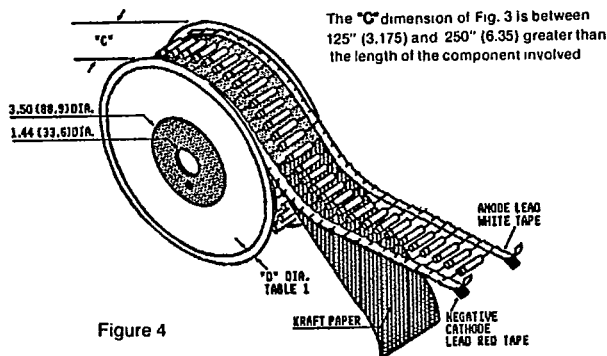


Figure 4

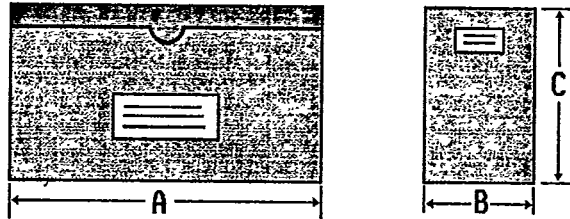
GENERAL INSTRUMENT

T-91-20

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	1.09/1.0	
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-WDF-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



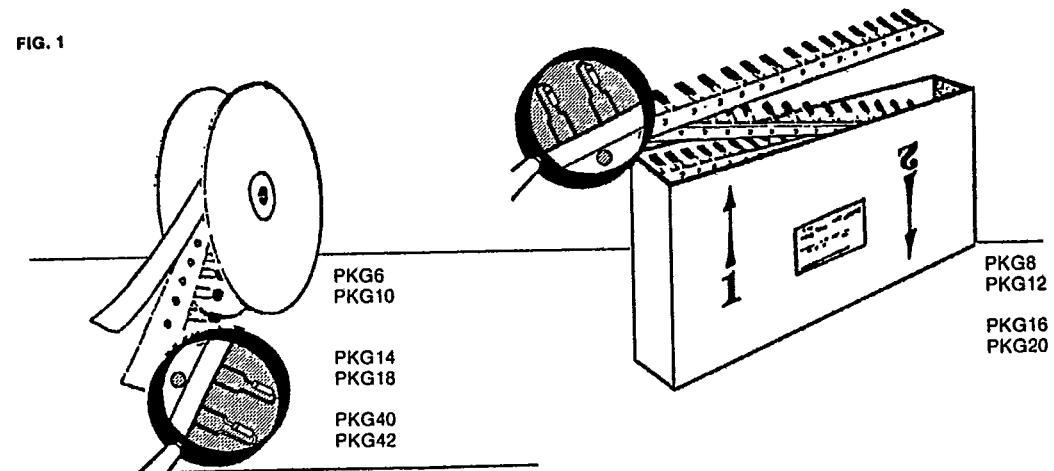
Packaging	Available Product Outlines	Packaging Codes	Dimension "A"	Dimension "B"	Dimension "C"	Quantity Box
26MM Horizontal Ammo Pack	DO-41 GI, DO-15	PKG 3	9.7" (247MM)	1.7" (44MM)	3.7" (95MM)	3K 1.5K
52MM Horizontal Ammo Pack	G1, DO-41 DO15 DO201AD, G3 P600	PKG 23	10.0" (254MM)	3.1" (79MM)	4.3" (110MM)	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

T-91-20

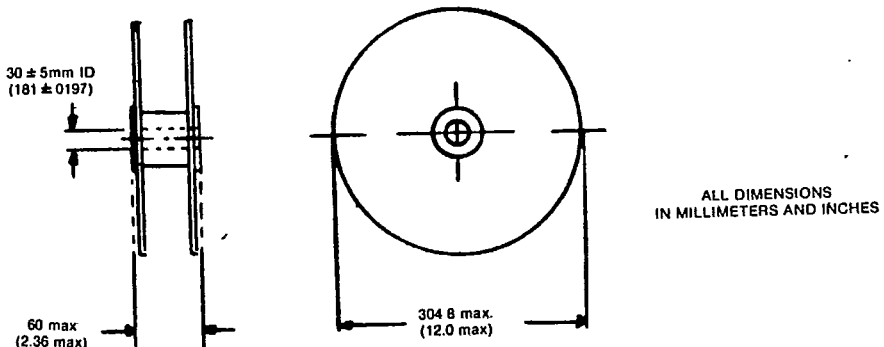
PACKAGING METHODS FOR VERTICLE TAPING

FIG. 1



Avisert: PKG6	Panasert: PKG14	Euroform: 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

T-91-20

VERTICLE REEL PACKAGING

ALL DIMENSIONS
IN MILLIMETERS AND (INCHES)

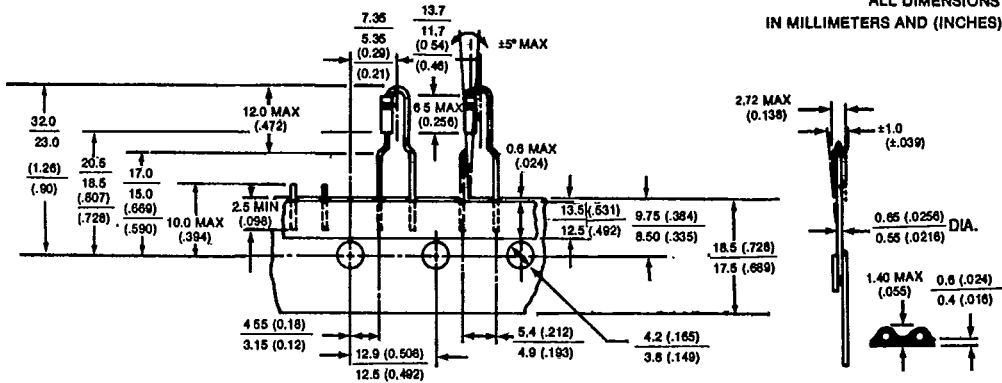


FIG. 3 - EURO FORM

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.

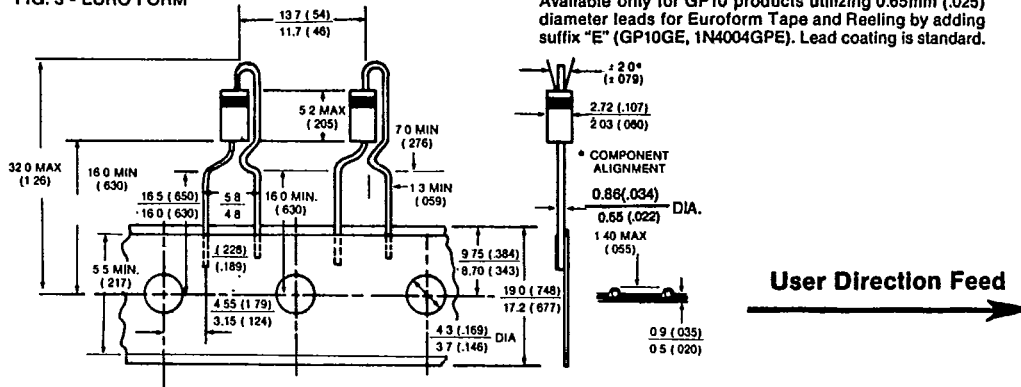


FIG. 4 - PANASERT

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.

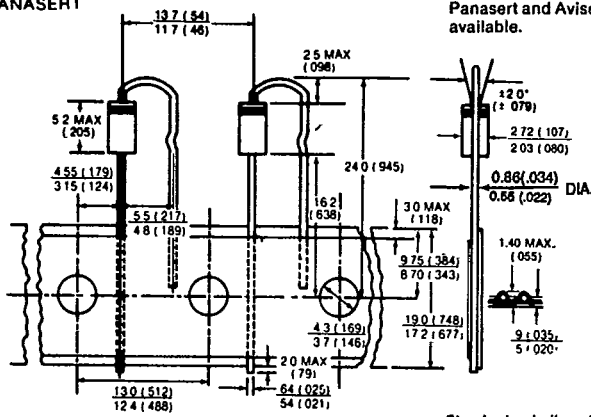


FIG. 5 - AVISERT

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

GENERAL
INSTRUMENT

T-91-20

SURFACE MOUNT PACKAGING

Packed per EIA/JEDEC Standard RS-481

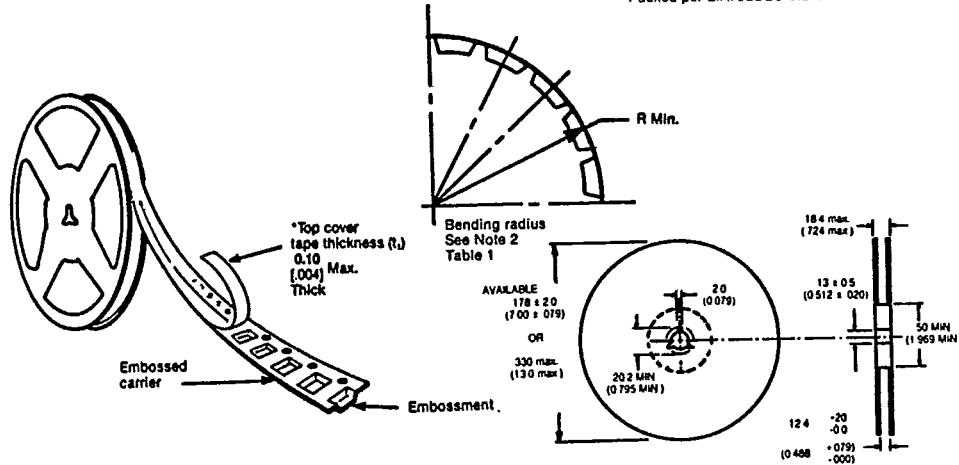


Table 1

8, 12, 16. MM Embossed Tape							All Dimensions in Millimeters and (Inches)			
Tape Size	D	E	P ₀	t	A ₀ B ₀ K ₀					Constant Dimensions
8, 12, MM	1.5 (.059)	1.75±0.10 (.069±0.004)	4.0±.10 (.157±0.004)	0.400 (.018)	See Note 1 Table 2					
Product Type	Tape Size	Max. B'	Min. D'	F	Max. K	P ₂	Min. R	W	P	Variable Dimensions
3L34	8MM	4.2 (.165)	1.0 (.039)	3.5±0.05 (.138±0.002)	2.4 (.094)	2.0±0.05 (.079±0.002)	25 (.984)	8.0±.30 (.315±0.012)	4.0±0.10	
3L41	12MM	8.2 (.323)	1.5 (.059)	5.5±0.05 (.217±0.002)	4.5 (.177)		30 (1.181)	12.0±.30 (.472±0.012)		

99: A₀ B₀ K₀ 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 0.1 min to 0.650 max. for 12 MM tape. In addition the components cannot rotate more than 20° within the determined cavity. The tape and components will pass around radius "R" without damage.

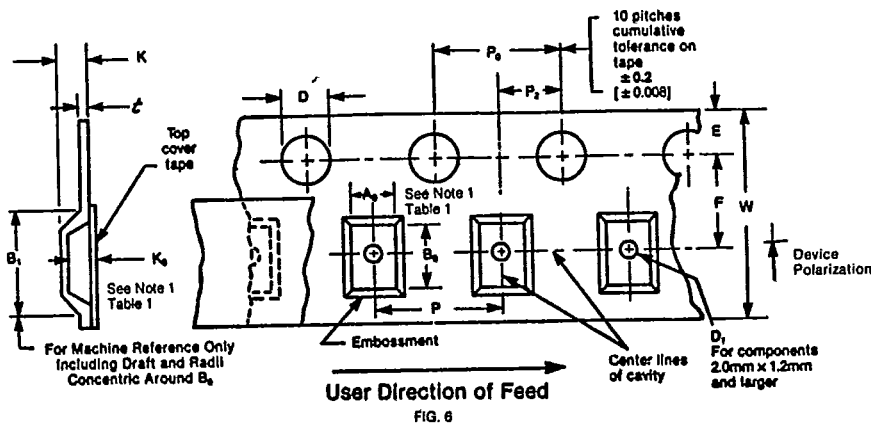


FIG. 6

GENERAL INSTRUMENT