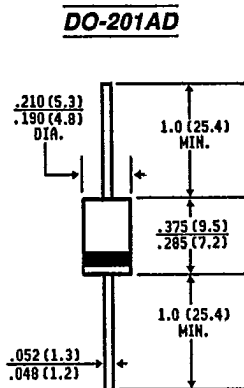
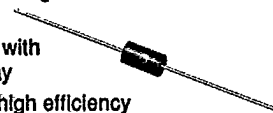


BY296P THRU BY299P**SOFT RECOVERY PLASTIC RECTIFIER****VOLTAGE - 100 to 800 Volts CURRENT - 2.0 Amperes****FEATURES**

- ◆ High surge current capability
- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-O
- ◆ Void-free plastic package
- ◆ 2.0 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed: $265^\circ\text{C}/10$ seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension



Dimensions in inches
and
(millimeters)

MECHANICAL DATA**Case:** Molded plastic**Terminals:** Axial leads, solderable per MIL-ST-202, Method 208**Polarity:** Color band denotes cathode**Mounting Position:** Any**Weight:** .04 ounce, 1.1 gram**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%.

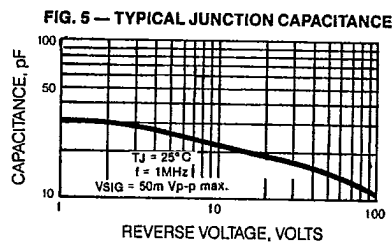
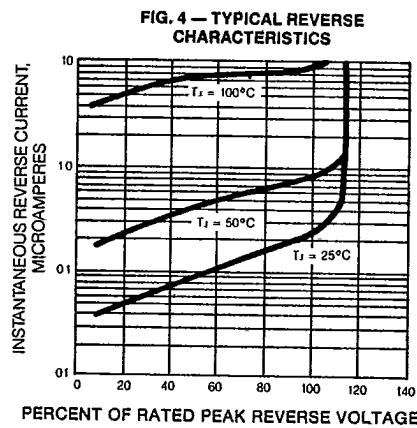
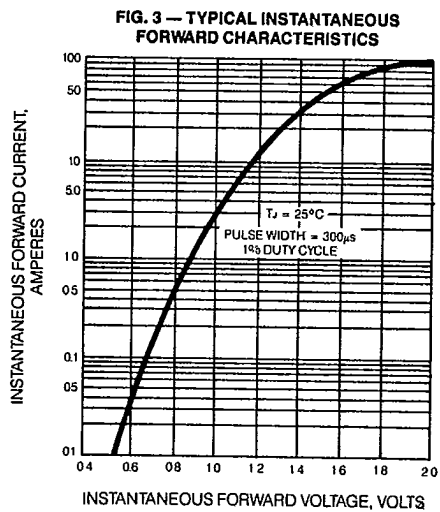
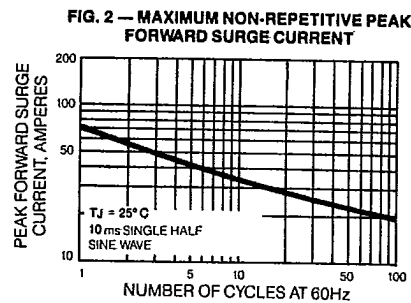
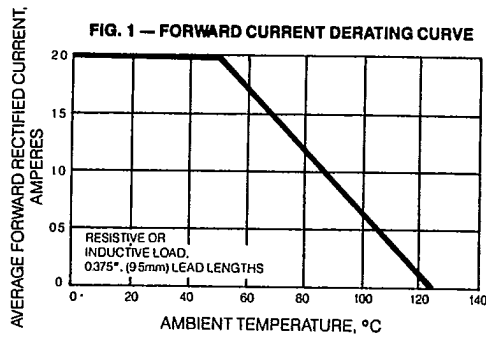
	SYMBOLS	BY296P	BY297P	BY298P	BY299P	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	100	200	400	800	Volts
Maximum RMS Voltage	V _{RMS}	70	140	280	560	Volts
Maximum DC Blocking Voltage	V _{DC}	100	200	400	800	Volts
Maximum Average Forward Rectified Current .375", (9.5mm) lead lengths at T _A = 55°C	I _(AV)	2.0				Amps
Peak Forward Surge Current 10ms single half sine-wave superImposed on rated load	I _{FSM}	70.0				Amps
Maximum Repetitive Peak Forward Surge (Note 1)	I _{FRM}	10.0				Amps
Maximum Instantaneous Forward Voltage at 3.0A	V _F	1.3				Volts
Maximum DC Reverse Current T _A = 25°C	I _R	10.0				μA
at Rated DC Blocking Voltage T _A = 100°C		500				
Maximum Reverse Recovery Time (Note 3) T _J = 25°C	T _{RR}	500				ns
Maximum Forward Recovery Time at 100mA	T _{FR}	1.0				μs
Typical Junction Capacitance (Note 2)T _J = 25°C	C _J	28.0				pf
Typical Thermal Resistance (Note 4)	RθJA	15.0				°C/W
Operating Temperature Range	T _J	-50 to +125				°C
Storage Temperature Range	T _{STG}	-50 to +150				°C

NOTES:

1. Repetitive Peak Forward Surge Current at $f < 15\text{KHz}$
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. Reverse Recovery Test Conditions: $I_F = 10\text{mA}$, $I_R = 10\text{mA}$, $I_{rr} = 1.0\text{mA}$
4. Thermal Resistance from Junction to Ambient at .375" (9.5mm) lead lengths with both leads to heat sink.

T-03-15

RATINGS AND CHARACTERISTIC CURVES BY296P THRU BY299P



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**

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REEL PACKAGING

Axial loaded 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	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

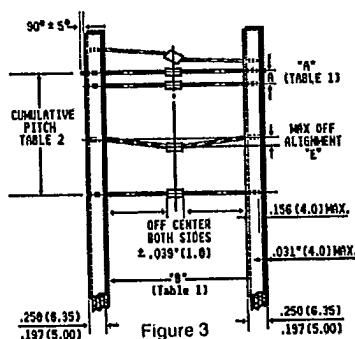


Figure 3

Dimensions in inches and (millimeters)

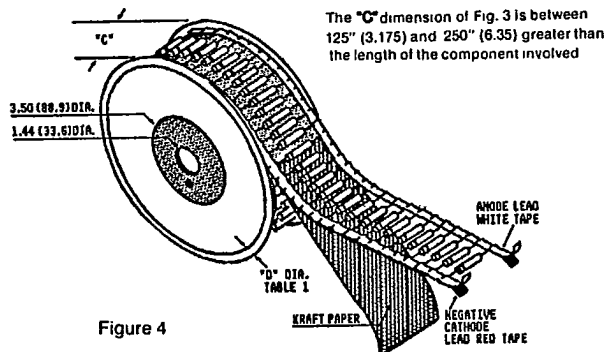


Figure 4

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

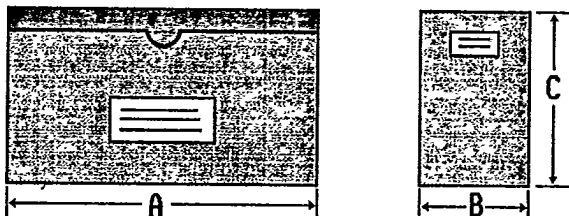
GENERAL
INSTRUMENT

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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	3.08	1.4
KBU4, 8, 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



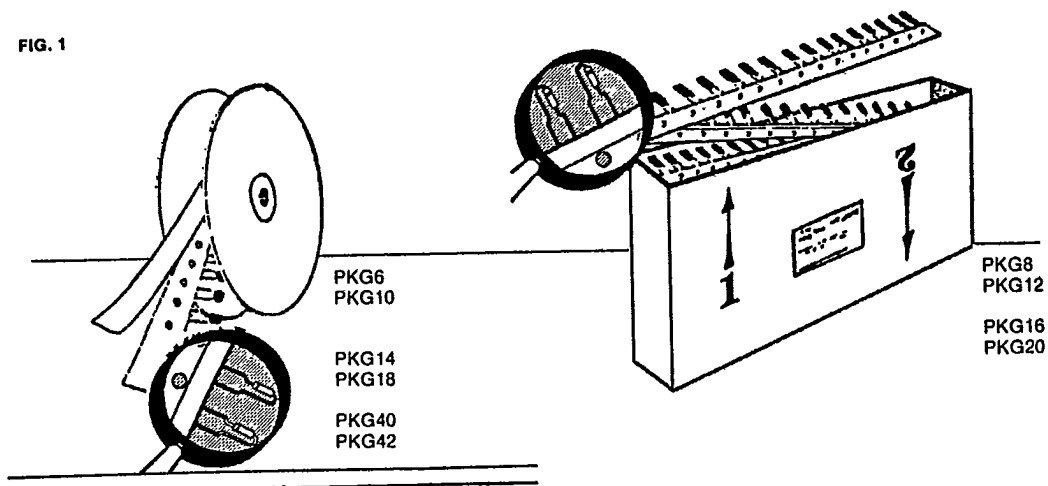
Packaging	Available Product Outlines	Packaging Codes	Dimension "A"	Dimension "B"	Dimension "C"	Quantity Box
26MM Horizontal Ammo Pack	DO-41 GI, DO-15	PKG 3	9.7" (247MM)	1.7" (44MM)	3.7" (95MM)	3K 1.5K
52MM Horizontal Ammo Pack	G1, DO-41 DO15 DO201AD, G3 P600	PKG 23	10.0" (254MM)	3.1" (79MM)	4.3" (110MM)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

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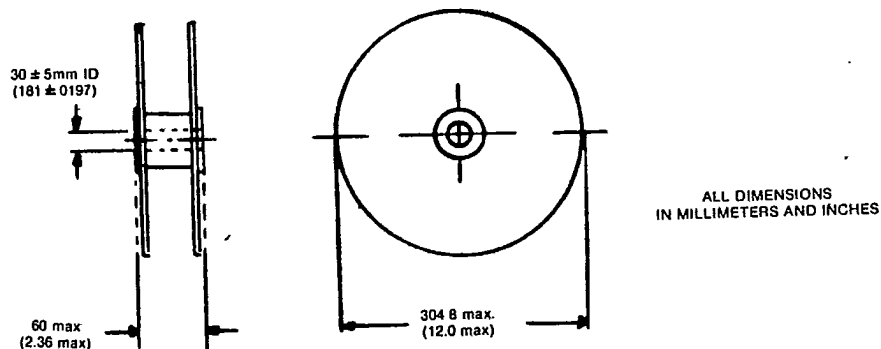
PACKAGING METHODS FOR VERTICLE TAPING

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**

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VERTICLE REEL PACKAGING

ALL DIMENSIONS
IN MILLIMETERS AND (INCHES)

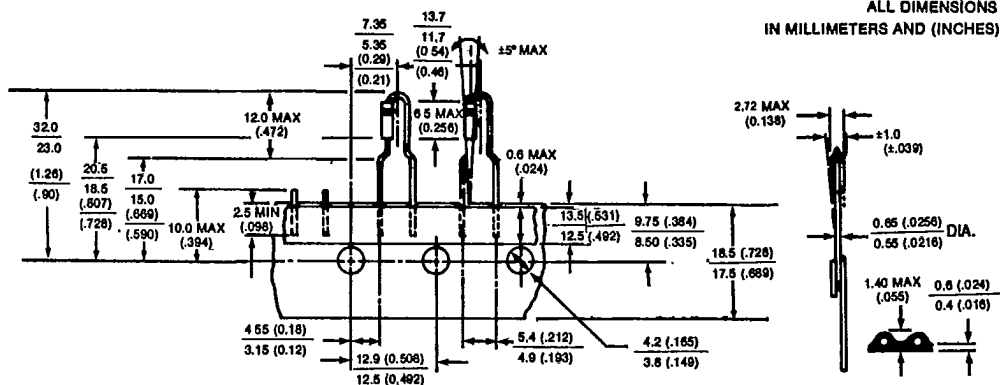


FIG. 3 - EURO FORM

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.

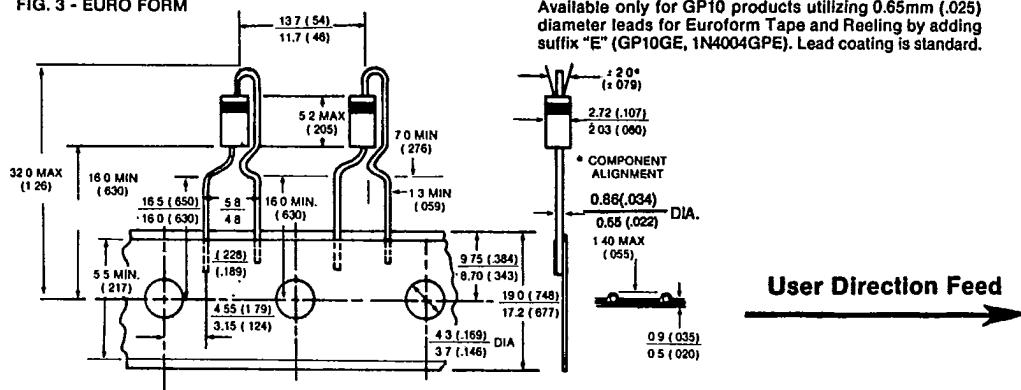


FIG. 4 - PANASERT

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.

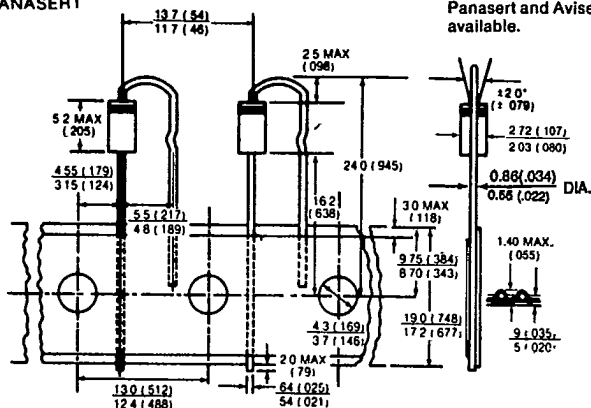


FIG. 5 - AVISERT

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

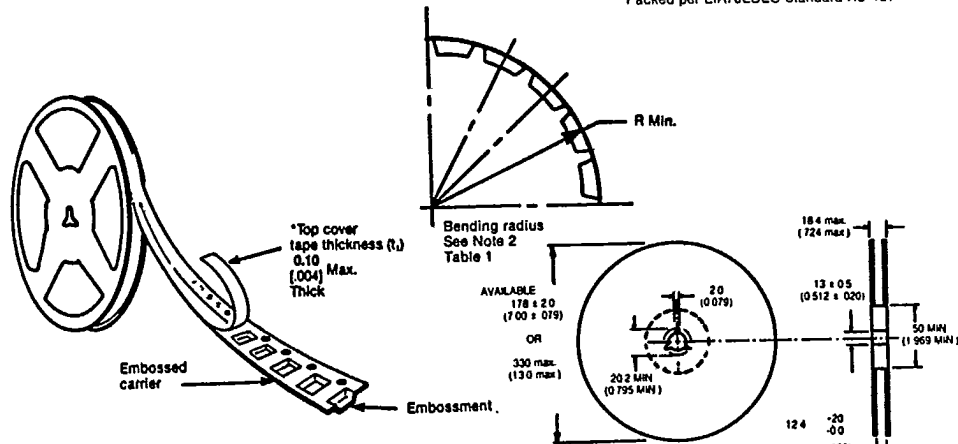
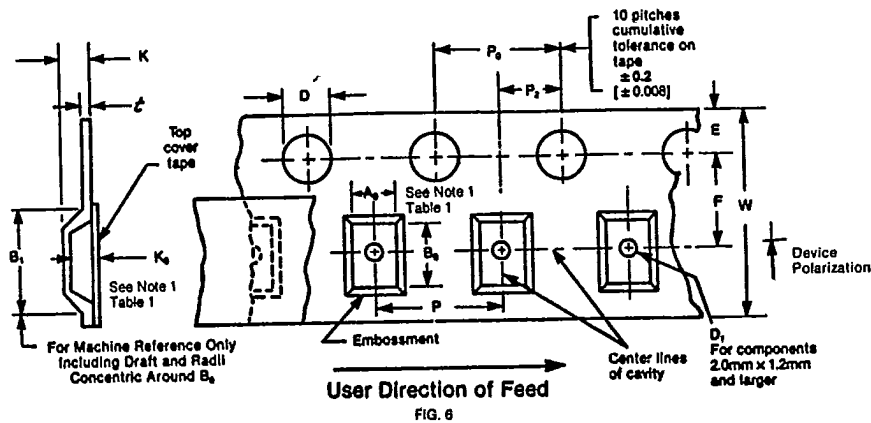


Table 1

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 (.059)	1.75±0.10 (.069±.004)	4.0±.10 (.157 ± .004)	0.400 (.016)	See Note 1 Table 2						
Product Type	Tape Size	Max. B ₁	Min. D ₁	F	Max. K	P ₂	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:
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