



DIOTEC ELECTRONICS CORP.
 18020 Hobart Blvd., Unit B
 Gardena, CA 90248
 Tel.: (310) 767-1052 Fax: (310) 767-7958

Data Sheet No.: SESA-301-A

T.03-15

3 AMP SUPER-EFFICIENT RECTIFIERS

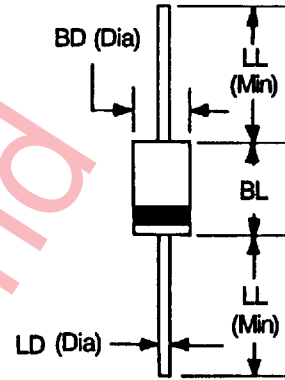
FEATURES:

- Low switching noise
- Low forward voltage drop
- Low thermal resistance
- High current capability
- High switching capability
- High surge capability
- High reliability

MECHANICAL DATA

- Case: JEDEC DO-27 molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Leads: MIL-STD-202E, method 208C guaranteed
- Mounting Position: Any
- Polarity: Color band denotes cathode end
- Weight: 0.04 ounces (1.12 grams)

DO-27



SYMBOL	DO-27
BL	0.36 (9.15)
BD	0.205 (5.2)
LL	1 (25.4)
LD	0.05 (1.25)

Dimensions in inches & (millimeters)

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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

MAXIMUM RATING @ T _A =25°C (unless otherwise specified)	SYMBOL											UNITS
		UFR 300	UFR 301	UFR 302	UFR 303	UFR 304	UFR 305	UFR 306	UFR 308	UFR 310		
Series Number												
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	300	400	500	600	800	1000	Volts	
Maximum RMS Voltage	V _{RMS}	35	70	140	210	280	350	420	560	700		
Maximum DC Blocking Voltage	V _{DC}	50	100	200	300	400	500	600	800	1000		
Maximum Average Forward Rectified Output Current @ 55°C	I <sub(av)< sub=""></sub(av)<>	3										Amps
Peak Forward Surge Current, 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I _{FSM}	150										Amps
Maximum Instantaneous Forward Voltage at 3 Amps	V _F	1					1.4					Volts
Maximum DC Reverse Current @: T _A = 25°C at Rated DC Blocking voltage T _A = 100°C	I _R	10					50					μA
Maximum Reverse Recovery Time (Note 1)	T _{RR}	50					75					nS
Typical Junction Capacitance (Note 2)	C _J	75					50					pf
Max. Thermal Resistance, Junction to Lead	R _{θJL}	20										°C/W
Operating & Storage Temperature Range	T _j , T _{STG}	-65 to +150										°C

NOTES: (1) Reverse recovery test conditions: I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A
 (2) Measured at 1MHz & applied reverse voltage of 4 volts.



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RATING & CHARACTERISTIC CURVES (UFR300-310)

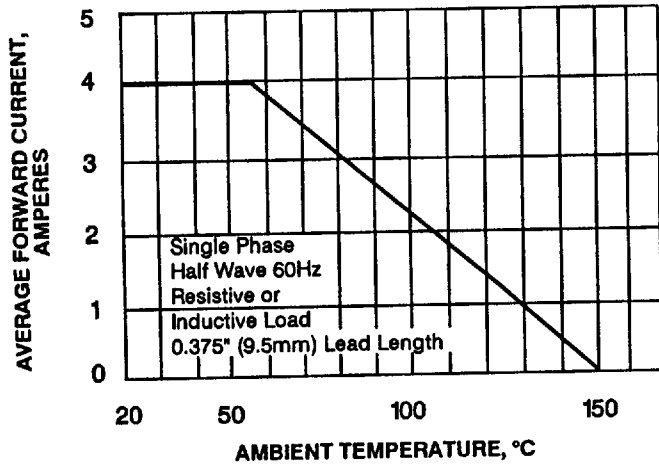


Fig. 1: Maximum average forward current rating.

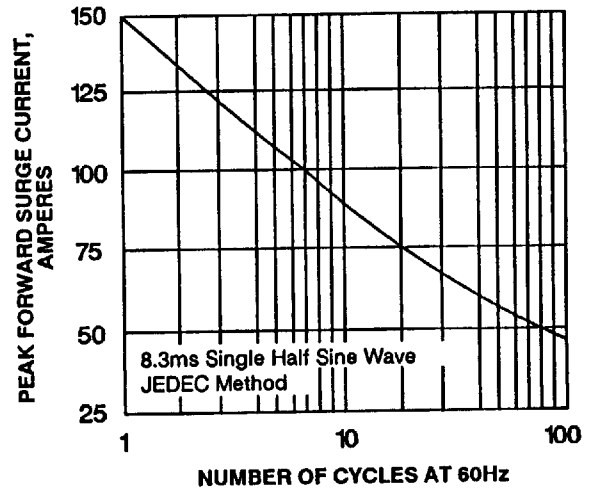


Fig. 2: Maximum non-repetitive peak forward surge current.

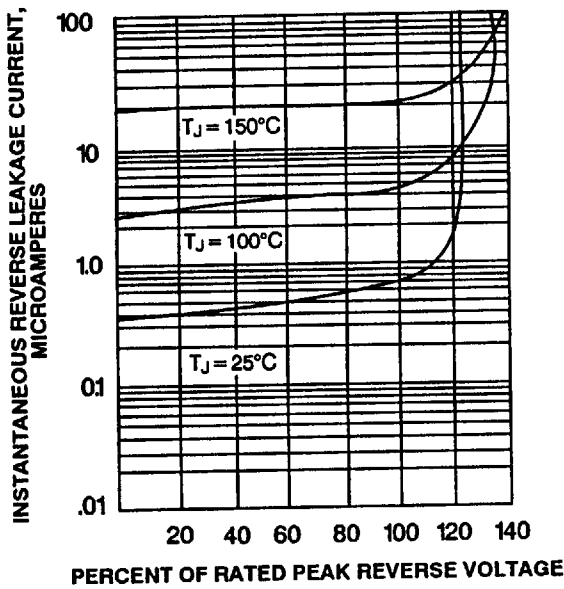


Fig. 3: Typical reverse characteristics.

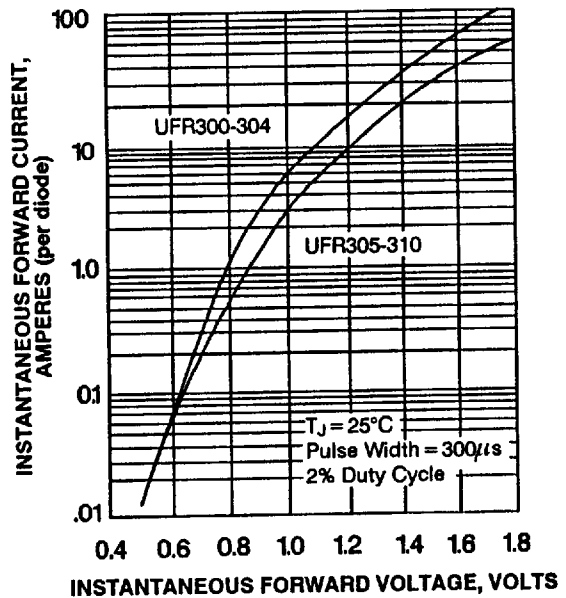


Fig. 4: Typical instantaneous forward characteristics.

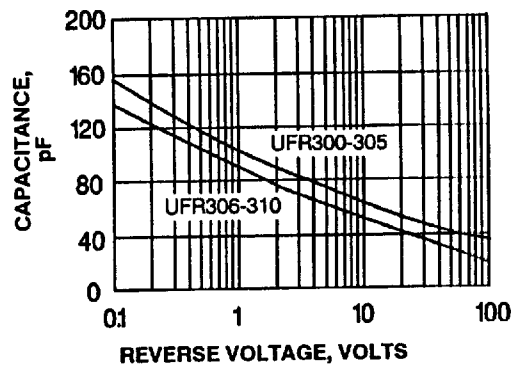
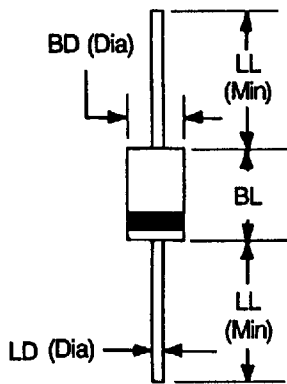


Fig. 5: Typical junction capacitance.

Appendix I: Package & Pin Orientation

T.91.20

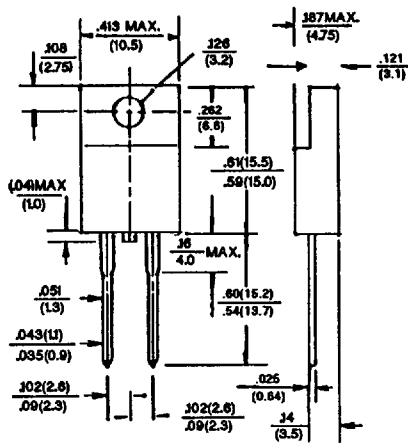
AXIAL LEAD DIODES



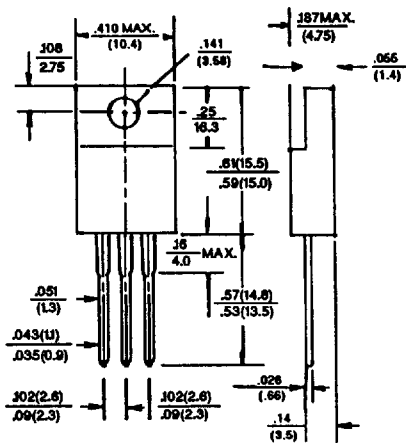
SYMBOL	DEVICE PACKAGES			
	DO-15	DT-15	DO-27	DT-27
BL	0.25 (6.35)	0.265 (6.7)	0.36 (9.15)	0.395 (10)
BD	0.132 (3.35)	0.14 (3.5)	0.205 (5.2)	0.225 (5.8)
LL	1 (25.4)	1 (25.4)	1 (25.4)	0.825 (21)
LD	0.03 (0.8)	0.03 (0.8)	0.05 (1.25)	0.056 (1.4)

SYMBOL	DO-35	DO-41	DT-41	G-6A
	BL	0.142 (3.6)	0.195 (4.95)	0.2 (5.2)
BD	0.07 (1.78)	0.105 (2.67)	0.1 (2.5)	0.275 (7)
LL	1 (25.4)	1 (25.4)	1 (25.4)	1 (25.4)
LD	0.03 (0.8)	0.03 (0.8)	0.03 (0.8)	0.05 (1.25)

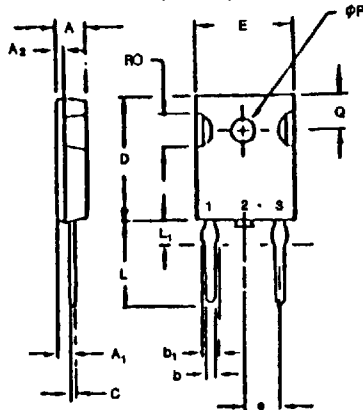
TO220AC



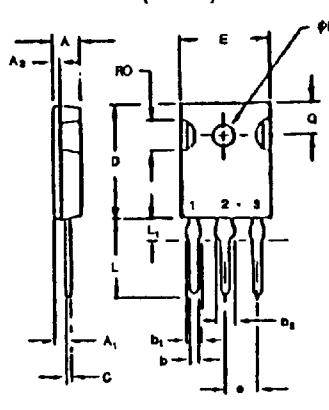
TO220AB



TO247(TO-3P)AC



TO247(TO-3P)AB

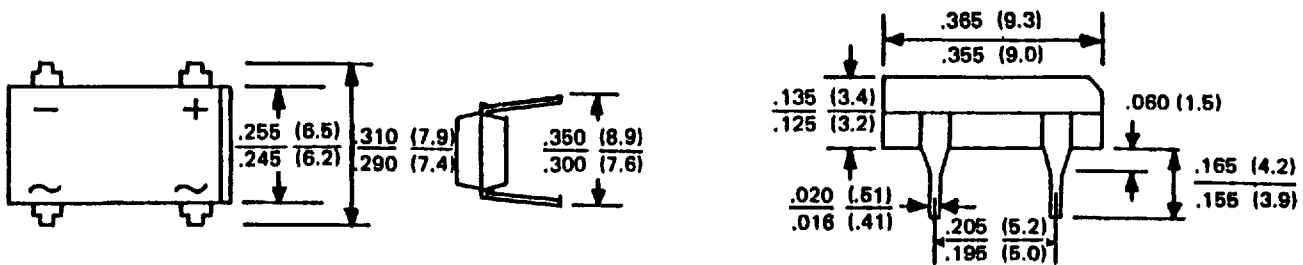


SYMBOL	DEVICE PACKAGES
	TO247AB & TO247AC
A	0.2 (5.1)
A ₁	0.095 (2.4)
A ₂	0.08 (2.03)
b	0.05 (1.27)
b ₁	0.09 (2.29)
b ₂	0.125 (3.18)
c	0.025 (0.62)
D	0.79 (20)
E	0.615 (15.62)
e	0.215 (5.46)
L	0.57 (14.48)
L ₁	0.16 (4.06)
∅P	0.125 (3.18)
Q	0.215 (5.46)
RO	0.2 (5.1)

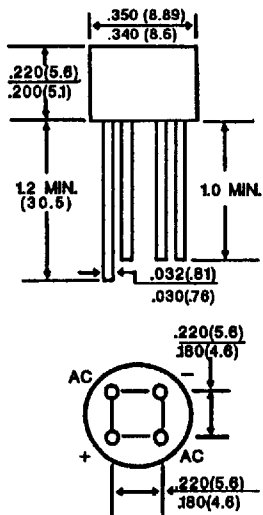
Dimensions in inches & (millimeters)

Appendix I: Package & Pin Orientation

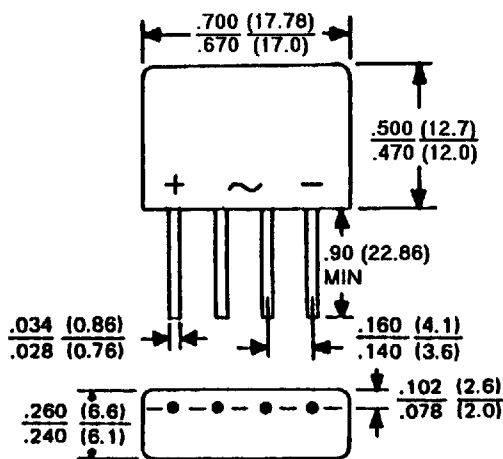
DI



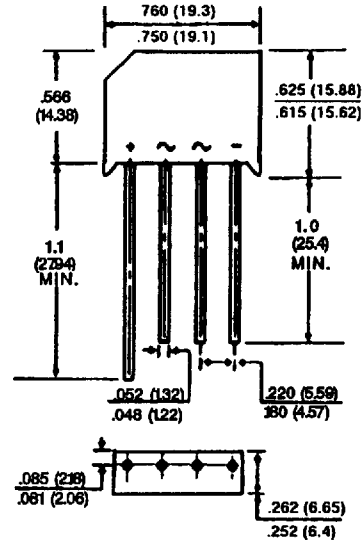
WB



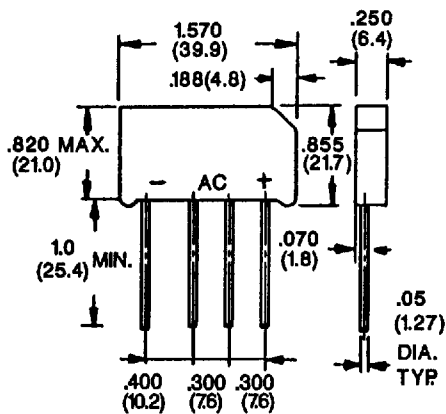
SB2



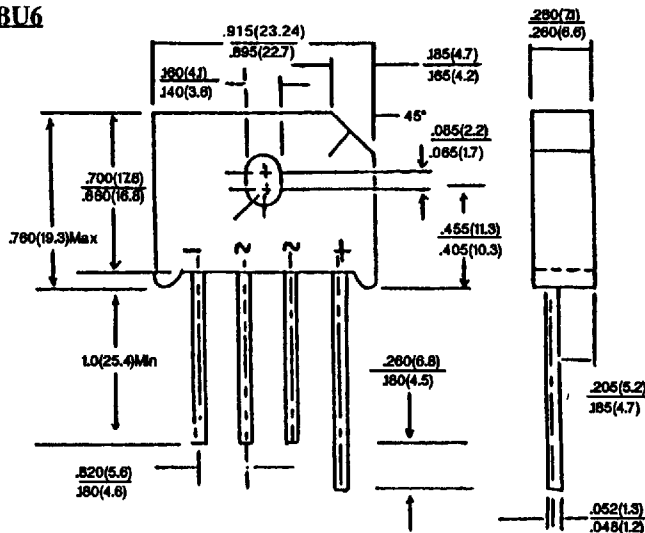
SB4



SB5



SBU6



Appendix I: Package & Pin Orientation

DB3/DB6/DB8

MB10

METAL HEAT SINK

HOLE FOR #6 SCREW

EPOXY CASE

SYMBOL	DEVICE PACKAGES			
	DB3		DB6	
	MAX.	MIN.	MAX.	MIN.
BL	0.62 (15.7)	0.58 (14.7)	0.62 (15.7)	0.58 (14.7)
BH	0.21 (5.4)	0.19 (4.9)	0.27 (6.9)	0.23 (5.8)
D1	0.445 (11.3)	0.405 (10.3)	0.445 (11.3)	0.405 (10.3)
LD	0.035 (0.9)	0.028 (0.7)	0.042 (1.1)	0.039 (1)
LL	NA	0.75 (19)	NA	0.75 (19)

SYMBOL	DB8		MB10	
	MAX.	MIN.	MAX.	MIN.
	BL	0.77 (19.6)	0.73 (18.5)	0.61 (15.5)
BH	0.3 (7.6)	0.25 (6.4)	0.21 (5.3)	0.23 (5.8)
D1	0.52 (13.2)	0.48 (12.2)	0.445 (11.3)	0.405 (10.3)
LD	0.052 (1.3)	0.048 (1.2)	0.042 (1.1)	0.039 (1)
LL	NA	0.875 (22.2)	NA	0.75 (19)

DB25P(W)

DB25P

METAL HEAT SINK

EPOXY CASE

HOLE FOR No. 8 SCREW

SYMBOL	DEVICE PACKAGES			
	DB25P		DB25P(W)	
	MAX.	MIN.	MAX.	MIN.
BL	1.13 (28.17)	1.12 (28.4)	1.13 (28.7)	1.12 (28.4)
BH	0.4 (10.1)	0.39 (9.9)	0.4 (10.1)	0.39 (9.9)
D1	0.66 (16.7)	0.62 (15.7)	NA	NA
D2	0.73 (18.5)	0.69 (17.5)	0.73 (18.5)	0.69 (17.5)
D3	0.57 (14.5)	0.53 (13.5)	NA	NA
D4	NA	NA	0.47 (11.9)	0.43 (10.9)
HT	1 (25.4)	NA	NA	NA
HW	NA	NA	NA	1.2 (30.5)
LD	NA	NA	0.042 (1.1)	0.039 (1)

DB25(W)

DB25

METAL CASE

HOLE FOR No. 8 SCREW

SYMBOL	DEVICE PACKAGES			
	DB25		DB25(W)	
	MAX.	MIN.	MAX.	MIN.
BL	1.13 (28.7)	1.12 (28.4)	1.13 (28.7)	1.12 (28.4)
BH	0.44 (11.2)	0.43 (11)	0.44 (11.2)	0.43 (11)

(All other dimensions identical to those of DB35P package.)

(All other dimensions identical to those of DB35P(W) package.)

Dimensions in inches & (millimeters)

Appendix II: Packaging Information

1) Tape & Reel Packaging (Axial-lead Devices)

DEVICE TYPE	COMPONENT SPACE "A" Inches (mm)	TAPE SPACE "B" Inches (mm)	REEL DIAMETER "C" Inches (mm)	QUANTITY		CARTON DIMENSIONS Inches (mm)	CARTON GROSS WEIGHT Lbs (Kgs)
				PER REEL	PER CARTON		
DO-41/DT-41	0.2 (5)	2.06 (52.4)	12.82 (326)	5,000	20,000	14 x 14 x 14 (355 x 355 x 355)	22 (10.5)
DO-15/DT-15	0.2 (5)	2.06 (52.4)	12.82 (326)	3,500	14,000		19 (8.5)
DO-27/DT-27	0.395 (10)	2.06 (52.4)	12.82 (326)	1,250	5,000		21 (9.4)
G-6A	0.395 (10)	2.06 (52.4)	12.82 (326)	600	2,400		16.5 (7.5)

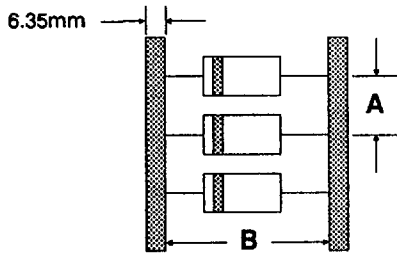


Fig. 1

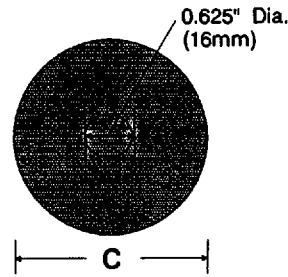


Fig. 2

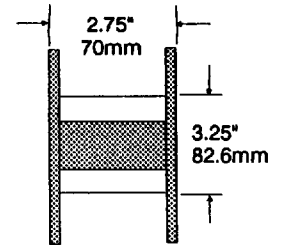


Fig. 3

2) Bulk Packaging

DEVICE TYPE	BOX SIZE Inches	CARTON SIZE Inches	QUANTITY		GROSS WEIGHT, Lbs (Kgs)	
			PER BOX	PER CARTON	PER BOX	PER CARTON

AXIAL-LEAD DIODES

DO-41 / DT-41	7.88 x 3.31 x 0.94	17.25 x 8.75 x 10	1,000	50,000	0.825 (0.37)	43 (19.5)
DO-15 / DT-15	7.88 x 3.31 x 1.25	17.25 x 8.75 x 10	1,000	40,000	1.03 (0.46)	43 (19.5)
DO-27 / DT-27	12 x 3 x 1.56	15.5 x 12.25 x 11.25	500	15,000	1.438 (0.65)	44 (20)
G-6 A	12 x 3 x 1.56	15.5 x 12.25 x 11.25	400	12,000	1.5 (0.68)	50.6 (23)

BRIDGE RECTIFIERS

WB	12 x 4.25 x 3.75	22.5 x 13 x 12.5	1,000	15,000	2.87 (1.3)	46.6 (21.2)
SB2	8.38 x 6.44 x 2.06	17.5 x 9 x 9.5	400	4,000	3.12 (1.4)	33 (15)
DB3	7.62 x 7.62 x 1.56	17.5 x 8.5 x 9	200	2,000	1.37 (0.6)	15.5 (7)
SB4	8.75 x 8.75 x 2	17.5 x 9 x 10.5	400	4,000	5.12 (2.35)	53 (24)
SB5	13.5 x 6.69 x 1.5		400		22.7 (10.32)	
SBU6	11.12 x 7.75 x 1.75		400		7.48 (3.4)	
DB6	7.62 x 7.62 x 1.56	17.5 x 8.5 x 9	200	2,000	1.9 (0.87)	20.7 (9.4)
DB8	8.75 x 8.75 x 1.56	17.5 x 9 x 9.5	200	2,000	2.37 (1.08)	25.5 (11.6)
DB25/T	7.62 x 7.62 x 1.56	17.5 x 8.5 x 9.75	50	500	3.75 (1.7)	39 (17.8)
DB25/W	7.62 x 7.62 x 1.56	17.5 x 8.5 x 9.75	50	500	3.5 (1.59)	36.5 (16.6)
DB25P/T	7.62 x 7.62 x 1.56	17.5 x 8.5 x 9.75	50	500	2.46 (1.12)	26.1 (11.9)
DB25P/W	7.62 x 7.62 x 1.56	17.5 x 8.5 x 9.75	50	500	2.2 (1.01)	23.5 (10.6)

3) Anti-static Plastic Tube Packaging

			PER TUBE	PER CARTON	PER TUBE	PER CARTON
DI	19.2 LONG	22.5 x 13 x 12.5	50	20,000	0.1 (0.045)	46.2 (21)
TO-220 AB/AC	20.5 LONG		50		0.2 (0.09)	
TO-3P (TO-247)	16 LONG		25		0.375 (0.17)	