

**GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

**FEATURES**

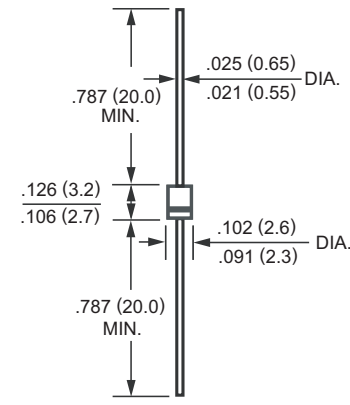
- \* High reliability
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* Glass passivated junction
- \* P/N suffix V means AEC-Q101 qualified
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Case: Molded plastic black body
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.19 gram



R-1



**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%.

**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	1A1G	1A2G	1A3G	1A4G	1A5G	1A6G	1A7G	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 25°C	I <sub>O</sub>	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	25							Amps
Typical Current Squared Time	I <sup>2</sup> T	2.59							A <sup>2</sup> S
Typical Junction Capacitance (Note)	C <sub>J</sub>	15							pF
Typical Thermal Resistance	R <sub>θJA</sub>	60							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150							°C

**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	1A1G	1A2G	1A3G	1A4G	1A5G	1A6G	1A7G	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>	1.0							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@TA = 25°C	1.0							uAmps
	@TA = 150°C	800							
Maximum Full Load Reverse Current Full Cycle Average .375" (9.5mm) lead length at TL = 75°C	I <sub>R</sub>	100							uAmps

NOTES : Measured at 1 MHz and applied reverse voltage of 4.0 volts

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# RATING AND CHARACTERISTIC CURVES ( 1A1G THRU 1A7G )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

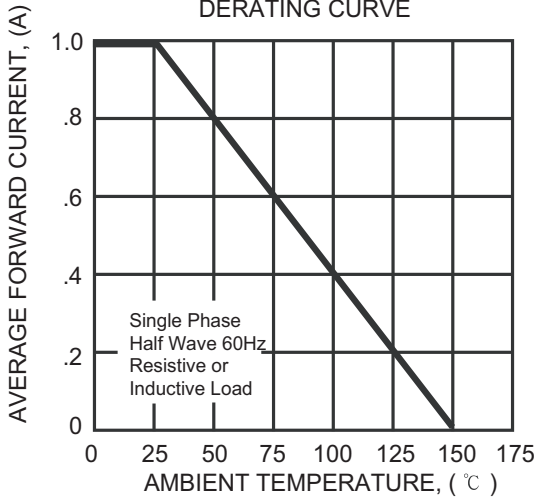


FIG. 2 - MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

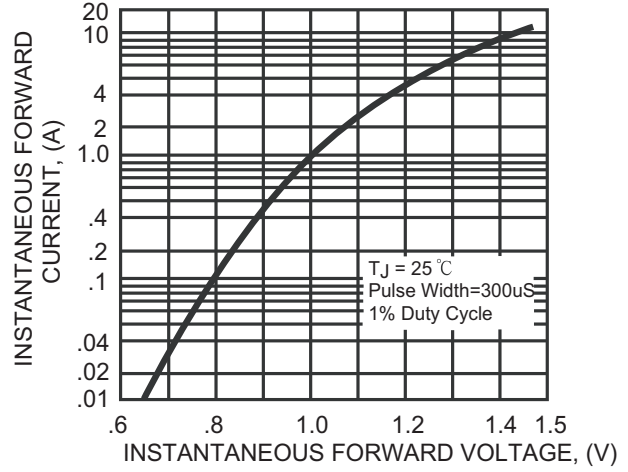


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

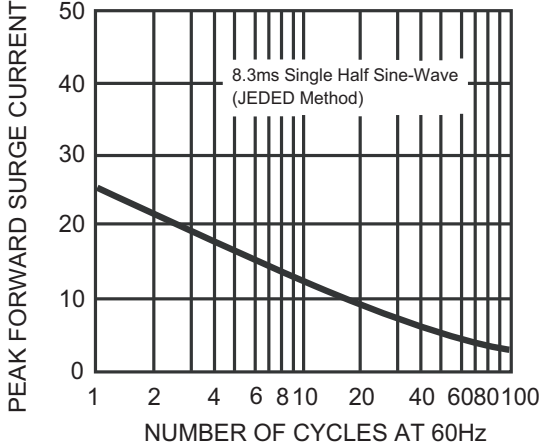


FIG. 4 - MAXIMUM REVERSE CHARACTERISTICS

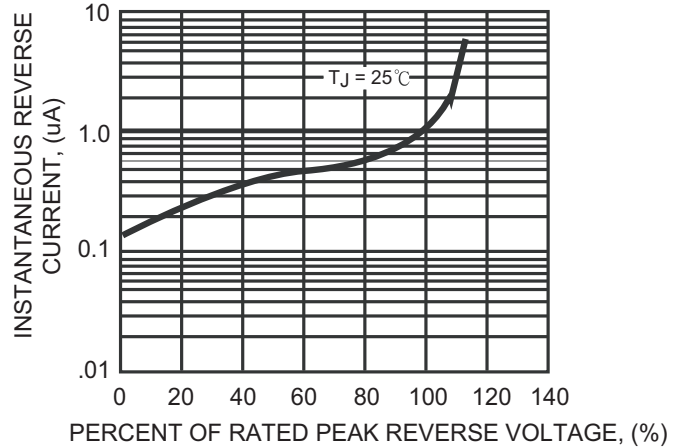
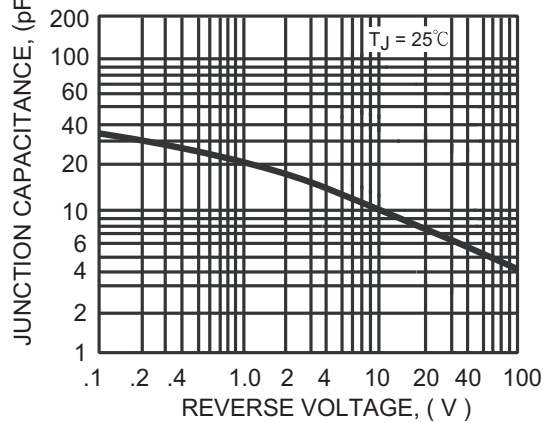


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



# AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

Axial lead devices are packed in accordance with EIA standard RS-296-D and specifications given below.

COMPONENT OUTLINE	COMPONENT PITCH A	INNER TAPE PITCH B		CUMULATIVE PITCH TOLERANCE
	$\pm 0.5\text{mm} (.020")$	$\pm 0.5\text{mm} (.020")$	$\pm 1.5\text{mm} (.059")$	
T-1	5.0mm	26.0mm		2.0mm/20pitch
R-1	5.0mm	26.0mm		2.0mm/20pitch
A-405	5.0mm	26.0mm		2.0mm/20pitch
A-405	5.0mm		52.4mm	2.0mm/20pitch
DO-41	5.0mm	26.0mm		2.0mm/20pitch
DO-41	5.0mm		52.4mm	2.0mm/10pitch
DO-15	5.0mm		52.4mm	2.0mm/10pitch
R-3	5.0mm		52.4mm	2.0mm/10pitch
DO-201AD	10.0mm		52.4mm	2.0mm/10pitch
R-6	10.0mm		52.4mm	2.0mm/10pitch

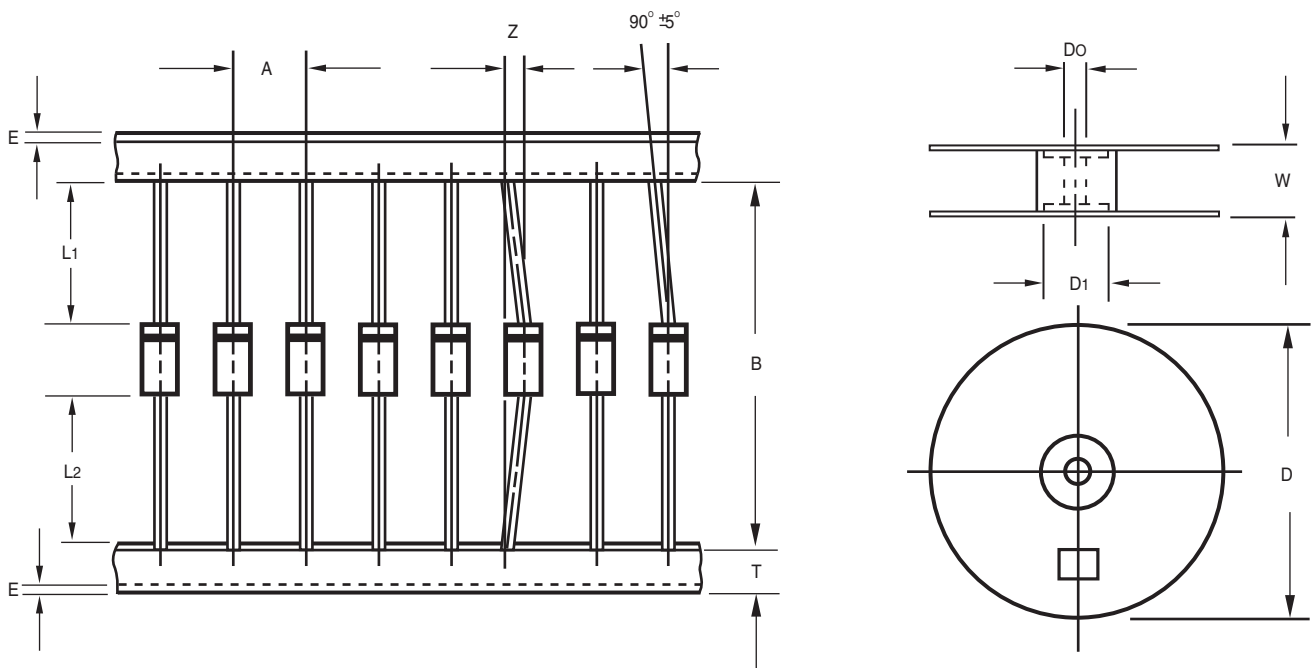


Fig.: Configuration of AXIAL LEAD TAPING

ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Component alignment	Z	1.2 Max.	0.047 Max.
Tape width	T	$6.0 \pm 0.4$	$0.236 \pm 0.016$
Exposed adhesive	E	0.8 Max.	0.032 Max.
Body eccentricity	$ L1-L2 $	1.0 Max.	0.039 Max.
Reel outside diameter	D	330.0	13.0
Reel inner diameter	D1	$85.7 \pm 0.3$	$3.374 \pm 0.012$
Feed hole diameter	Do	$30.5 \pm 0.4$	$1.201 \pm 0.016$
Reel width	W	$79.0 \pm 1.0$	$3.110 \pm 0.039$

Notes : 1. Each component lead shall be sandwiched between tapes for a minimum of 3.2mm (0.126").  
2. The reel width "W" for 26mm taping is  $50.0 \pm 1.0\text{mm} (1.97" \pm 0.040")$ .

# RADIAL-TAPING SPECIFICATIONS FOR RECTIFIERS-I TAPING

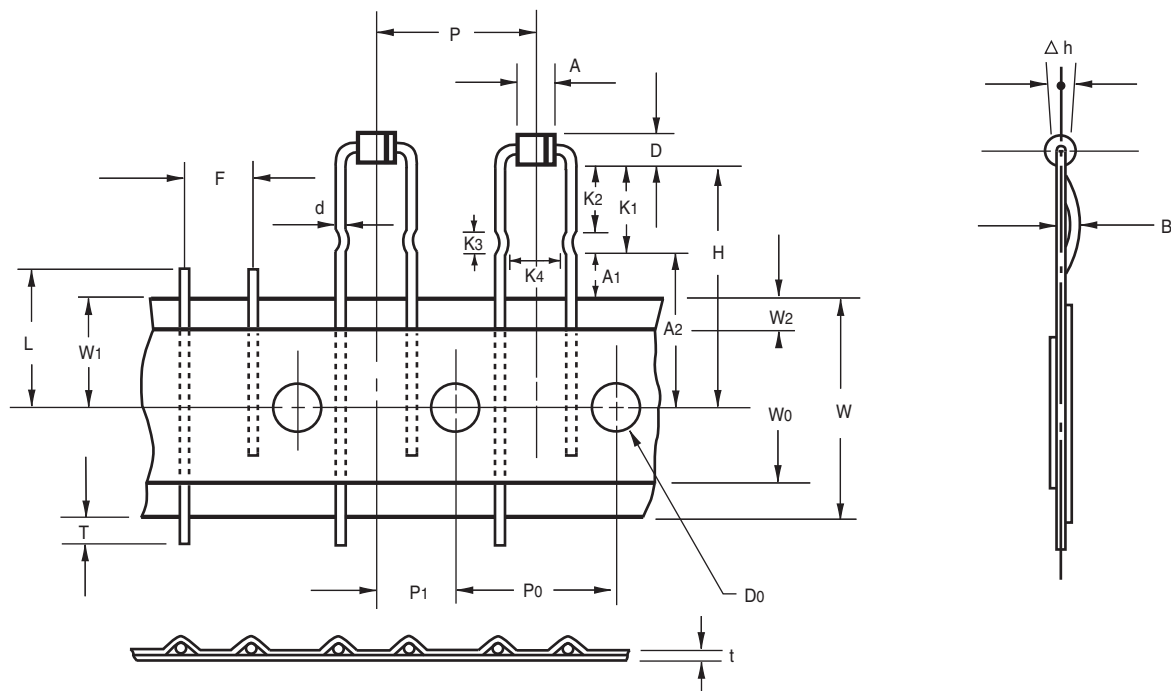


Fig.: Configuration of I-TAPING

ITEM	SYMBOL	SPECIFICATIONS(mm)	SPECIFICATIONS(inch)
Lead-wire clinch height	A2	15.5± 0.2	0.610± 0.008
Kinker height	K1	5.0± 1.0	0.197± 0.039
Kinker position	K2	3.0± 1.0	0.118± 0.039
Lead kinker length	K3	3.0± 1.0	0.118± 0.039
Component kinker spacing	K4	2.5± 1.0	0.098± 0.039
Adhesive tape position	A1	6.0 Min.	0.236 Min.
Body diameter	D	2.5± 0.2	0.098± 0.008
Body length	A	3.1± 0.3	0.122± 0.012
Lead-wire diameter	d	0.6± 0.1	0.024± 0.004
Component pitch	P	12.7± 1.0	0.500± 0.039
Feed hole pitch	P0	12.7± 1.0	0.500± 0.039
Component lead spacing	F	5.0± 0.8	0.197± 0.031
Deflection	Δh	0.0± 2.0	0.0± 0.079
Tape width	W	18.0+1.0/-0.5	0.709+0.039/-0.020
Hole-down tape width	W0	12.5 Min.	0.492 Min.
Hole position	W1	9.0+0.7/-0.5	0.354+0.028/-0.020
Length from seating plane	H	20.0± 0.5	0.787± 0.020
Feed hole diameter	D0	4.0± 0.3	0.157± 0.012
Total tape thickness	t	0.7± 0.2	0.028± 0.008
Cut out length	L	11.0 Max.	0.433 Max.
Lead protrusion	T	2.0 Max.	0.079 Max.
Center of seating plane location	P1	6.35± 0.7	0.250± 0.028
Adhesive tape position	W2	3.0 Max.	0.118 Max.
Lead bend	B	1.0 Max.	0.039 Max.

- Notes :
- 1.Devices are pecked in accordance with EIA standard RS-468and specifications listed above. Available only for R-1 product utilizing 0.6mm diameter leads.
  - 2.Maximum cumulative pitchtolerance : 1.0mm/20pitch.
  - 3.Standard packing code is "I"

# RADIAL-TAPING SPECIFICATIONS FOR RECTIFIERS-J TAPING

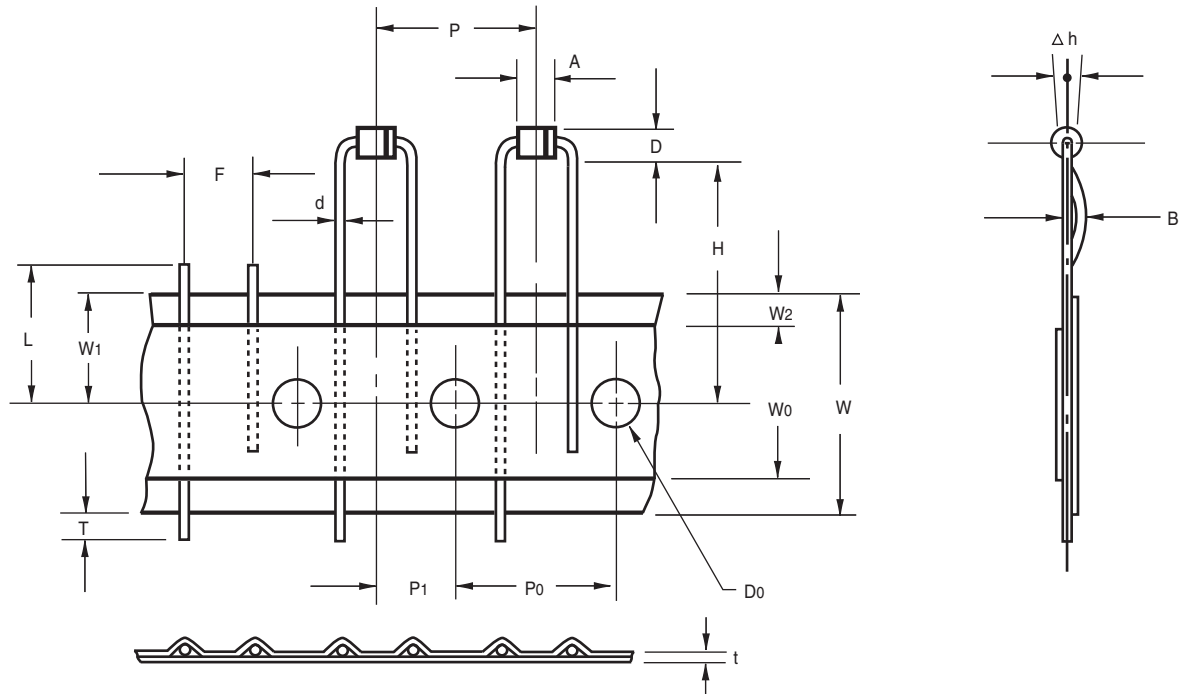


Fig.: Configuration of J-TAPING

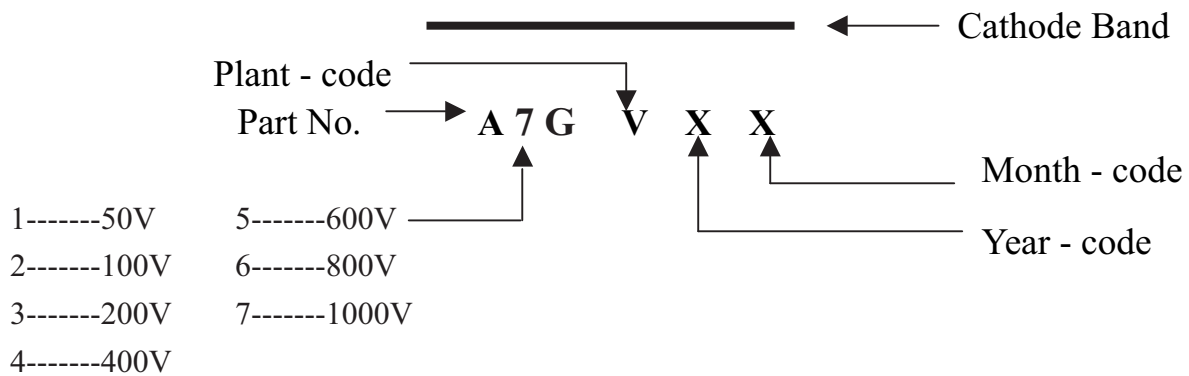
ITEM	SYMBOL	SPECIFICATIONS(mm)	SPECIFICATIONS(inch)
Body diameter	D	2.5± 0.2	0.098± 0.008
Body height	A	3.1± 0.3	0.122± 0.012
Lead-wire diameter	d	0.6± 0.1	0.024± 0.004
Component pitch	P	12.7± 1.0	0.500± 0.039
Feed hole pitch	P0	12.7± 1.0	0.500± 0.039
Component lead spacing	F	5.0± 0.8	0.197± 0.032
Deflection	Δ h	0.0± 2.0	0.000± 0.079
Tape width	W	18.0+1.0/-0.5	0.709+0.039/-0.020
Hold-down tape width	W0	12.5 Min.	0.492 Min.
Hold-position	W1	9.0+0.7/-0.50	0.354+0.028/-0.020
Length from seating plane	H	20.0± 0.5	0.787± 0.020
Feed hole diameter	DO	4.0± 0.3	0.157± 0.012
Overall tape thickness	t	0.7± 0.2	0.028± 0.008
Cut out length	L	11.0 Max.	0.433 Max.
Lead protrusion	T	1.0 Max.	0.039 Max.
Center of seating plane location	P1	6.35± 0.7	0.250± 0.028
Adhesive tape border	W2	30 Max.	1.181 Max.
Lead bend	B	1.0 Max.	0.039 Max.

- Notes :
- 1.Devices are packed in accordance with EIA standard RS-468 and specification given above. Available only for R-1 product utilizing 0.6mm diameter leads.
  - 2.Maximum cumulative pitch tolerance:1.0mm/20pitch.
  - 3.Standard packing code is "J".

## 1. Internal Circuit



## 2. Marking on the body



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
R-1	-T	5,000	5,000	5.0	52	330	355*350*335	20,000	7.37

### AMMO PACK

PACKAGE	PACKING CODE	REEL ( EA )	COMPONENT SPACE(mm)	TAPE SPACE (mm)	BOX SIZE (mm)	CARTON SIZE(mm)	CARTON ( EA )	GROSS WEIGHT (Kg)
R-1	-F	3,000	5.0	52	255*73*100	400*268*225	30,000	8.5
R-1	-E	3,000	5.0	26	256*48*94	365*270*217	42,000	8.35
R-1	-J	3,000	12.7	---	325*170*40	355*350*335	42,000	13.93
R-1	-I	2,000	12.7	---	325*170*40	355*350*335	28,000	9.69

### BULK PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
R-1	-B	1000	192*75*21	415*220*255	50,000	11.74

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