

P6KE Series

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE - 6.8 TO 550 Volts

600Watt Peak Power 5.0 Watt Steady State

1.Feature

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- * Glass passivated chip junction in DO-15 package
- * 600W surge capability at 1ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time: typically less than 1.0 ps from 0 volts to BV min
- * Typical IR less than 1μA above 10V
- * High temperature soldering guaranteed: 260 /10 seconds/.375", (9.5mm) lead length/5lbs., (2.3kg) tension

2.Mechanical Data

Case: JEDEC DO-15 molded plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denoted cathode except Bipolar

Mounting Position: Any

Weight: 0.015 ounce, 0.4 gram

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P6KE6.8 thru types P6KE550

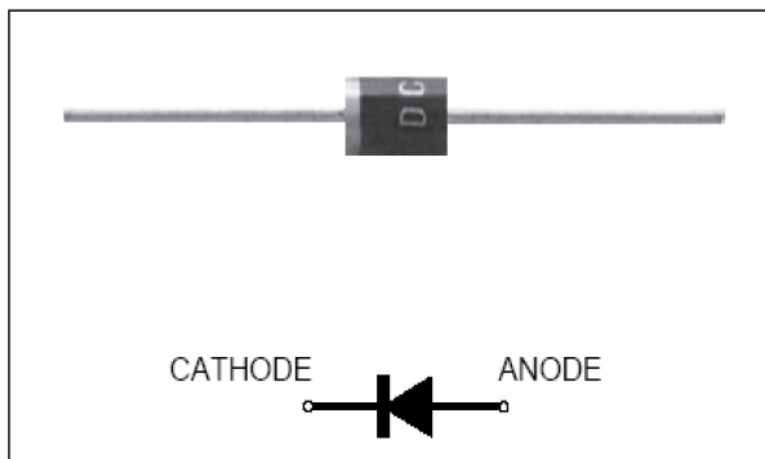
Electrical characteristics apply in both directions.

3.Electrical Characteristic

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%.



We declare that the material of product compliance with RoHS requirements.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$ (Note 1)	P_{PPM}	Minimum 600	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths .375", (9.5mm) (Note 2)	$P_{M(AV)}$	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method) (Note 3)	I_{FSM}	100	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-50 to +150	$^\circ\text{C}$

NOTES:

1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig. 2.
2. Mounted on Copper Leaf area of 1.57in²(40mm²).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @IPP VC (V)	REVERSE LEAKAGE @VRWM IR (uA)
P6KE6.8	5.5	6.12	7.48	10	10.8	1000
P6KE6.8A	5.8	6.45	7.14	10	10.5	1000
P6KE7.5	6.05	6.75	8.25	10	11.7	500
P6KE7.5A	6.4	7.13	7.88	10	11.3	500
P6KE8.2	6.63	7.38	9.02	10	12.5	200
P6KE8.2A	7.02	7.79	8.61	10	12.1	200
P6KE9.1	7.37	8.19	10	1	13.8	50
P6KE9.1A	7.78	8.65	9.5	1	13.4	50
P6KE10	8.1	9	11	1	15	10
P6KE10A	8.55	9.5	10.5	1	14.5	10
P6KE11	8.92	9.9	12.1	1	16.2	5
P6KE11A	9.4	10.5	11.6	1	15.6	5
P6KE12	9.72	10.8	13.2	1	17.3	5
P6KE12A	10.2	11.4	12.6	1	16.7	5
P6KE13	10.5	11.7	14.3	1	19	5
P6KE13A	11.1	12.4	13.7	1	18.2	5
P6KE15	12.1	13.5	16.5	1	22	5
P6KE15A	12.8	14.3	15.8	1	21.2	5
P6KE16	12.9	14.4	17.6	1	23.5	5
P6KE16A	13.6	15.2	16.8	1	22.5	5
P6KE18	14.5	16.2	19.8	1	26.5	5
P6KE18A	15.3	17.1	18.9	1	25.2	5
P6KE20	16.2	18	22	1	29.1	5
P6KE20A	17.1	19	21	1	27.7	5
P6KE22	17.8	19.8	24.2	1	31.9	5
P6KE22A	18.8	20.9	23.1	1	30.6	5
P6KE24	19.4	21.6	26.4	1	34.7	5
P6KE24A	20.5	22.8	25.2	1	33.2	5
P6KE27	21.8	24.3	29.7	1	39.1	5
P6KE27A	23.1	25.7	28.4	1	37.5	5
P6KE30	24.3	27	33	1	43.5	5
P6KE30A	25.6	28.5	31.5	1	41.4	5
P6KE33	26.8	29.7	36.3	1	47.7	5
P6KE33A	28.2	31.4	34.7	1	45.7	5
P6KE36	29.1	32.4	39.6	1	52	5
P6KE36A	30.8	34.2	37.8	1	49.9	5
P6KE39	31.6	35.1	42.9	1	56.4	5
P6KE39A	33.3	37.1	41	1	53.9	5
P6KE43	34.8	38.7	47.3	1	61.9	5
P6KE43A	36.8	40.9	45.2	1	59.3	5
P6KE47	38.1	42.3	51.7	1	67.8	5
P6KE47A	40.2	44.7	49.4	1	64.8	5
P6KE51	41.3	45.9	56.1	1	73.5	5
P6KE51A	43.6	48.5	53.6	1	70.1	5
P6KE56	45.6	50.4	61.6	1	80.5	5
P6KE56A	47.8	53.2	58.8	1	77	5
P6KE62	50.2	55.8	68.2	1	89	5
P6KE62A	53	58.9	65.1	1	85	5
P6KE68	55.1	61.2	74.8	1	98	5

UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @IPP VC (V)	REVERSE LEAKAGE @VRWM IR (uA)
P6KE68A	58.1	64.6	71.4	1	92	5
P6KE75	60.7	67.5	82.5	1	108	5
P6KE75A	64.1	71.3	78.8	1	103	5
P6KE82	66.4	73.8	90.2	1	118	5
P6KE82A	70.1	77.9	86.1	1	113	5
P6KE91	73.7	81.9	100	1	131	5
P6KE91A	77.8	86.5	95.5	1	125	5
P6KE100	81	90	110	1	144	5
P6KE100A	85.5	95	105	1	137	5
P6KE110	89.2	99	121	1	158	5
P6KE110A	94	105	116	1	152	5
P6KE120	97.2	108	132	1	173	5
P6KE120A	102	114	126	1	165	5
P6KE130	105	117	143	1	187	5
P6KE130A	111	124	137	1	179	5
P6KE150	121	135	165	1	215	5
P6KE150A	128	143	158	1	207	5
P6KE160	130	144	176	1	230	5
P6KE160A	136	152	168	1	219	5
P6KE170	138	153	187	1	244	5
P6KE170A	145	162	179	1	234	5
P6KE180	146	162	198	1	258	5
P6KE180A	154	171	189	1	246	5
P6KE200	162	180	220	1	287	5
P6KE200A	171	190	210	1	274	5
P6KE220	175	198	242	1	344	5
P6KE220A	185	209	231	1	328	5
P6KE250	202	225	275	1	360	5
P6KE250A	214	237	263	1	344	5
P6KE300	243	270	330	1	430	5
P6KE300A	256	285	315	1	414	5
P6KE350	284	315	385	1	504	5
P6KE350A	300	332	368	1	482	5
P6KE400	324	360	440	1	574	5
P6KE400A	342	380	420	1	548	5
P6KE440	356	396	484	1	631	5
P6KE440A	376	418	462	1	600	5
P6KE550	445	495	605	1	791	5
P6KE550A	467	522.5	577.5	1	760	5

NOTES:

1. Non-repetitive current pulse, per Fig. 3 and derated above TA=25°C per Fig. 2.
2. Mounted on Copper Leaf area of 1.57in²(40mm²).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

4. Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1-Peak Pulse Power Rating Curve

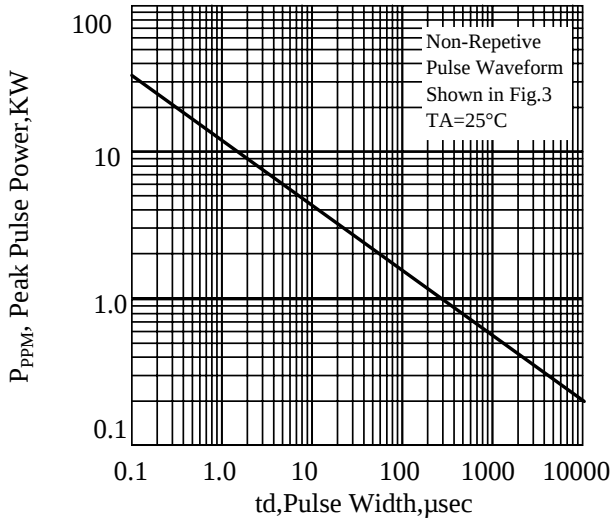


Fig. 2-Pulse Derating Curve

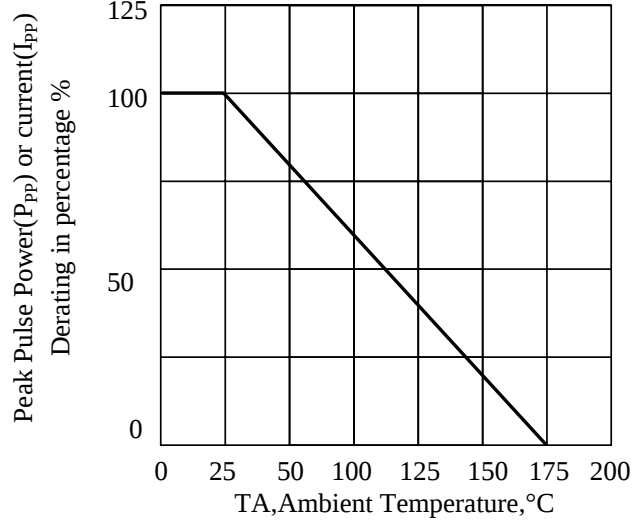


Fig. 3-Pulse Waveform

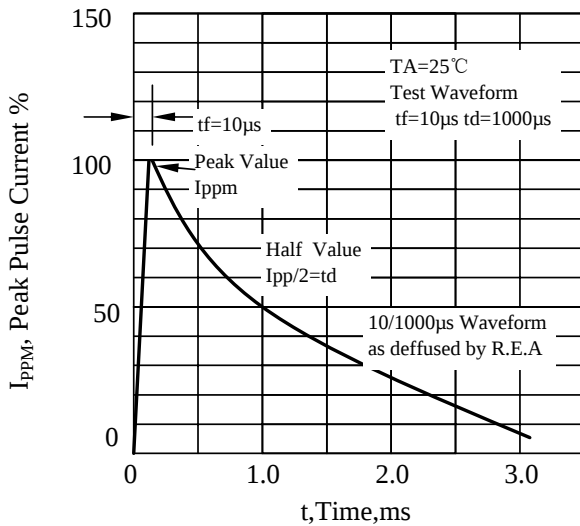


Fig. 4-Typical Junction Capacitance Unidirectional

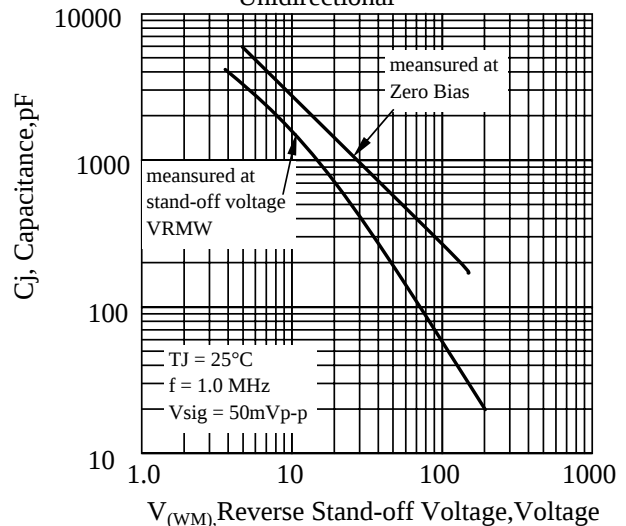


Fig. 5-Steady State Power Derating Curve

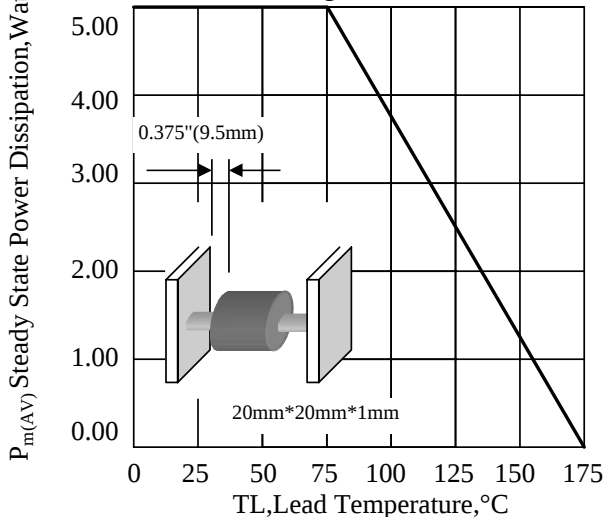
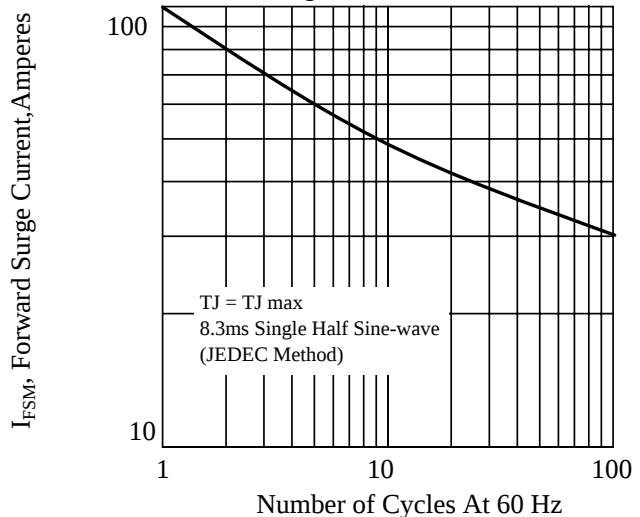
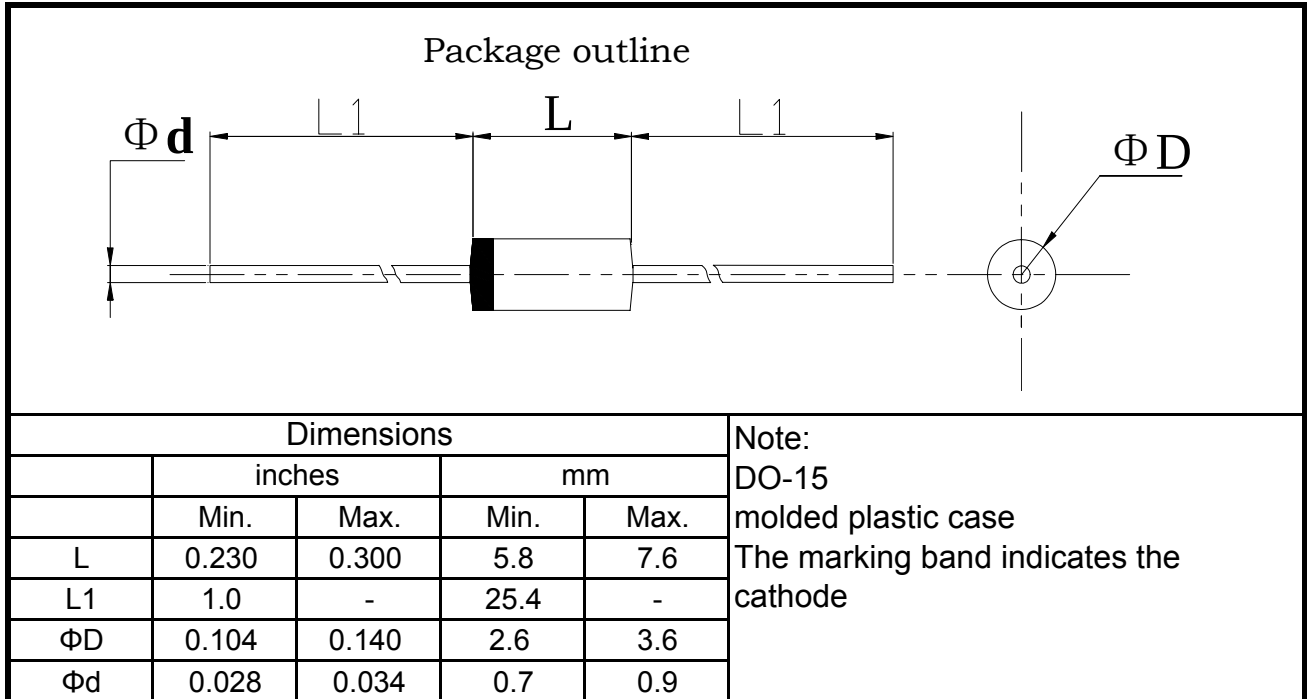


Fig. 6-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional



5.Package Dimensions in inches and (millimeters)

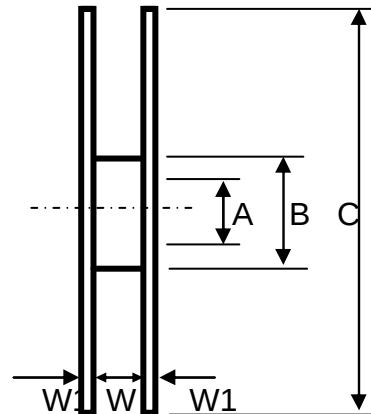
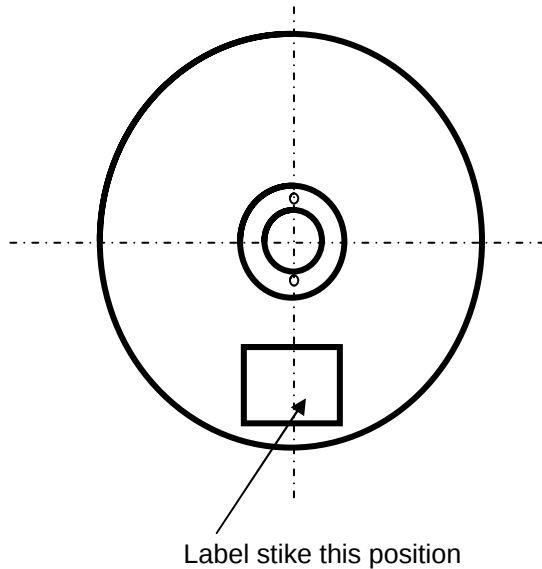


Packing Of Plastic-Sealed Axial Lead Diodes

1. 卷盘/Reel Packing (52mm)

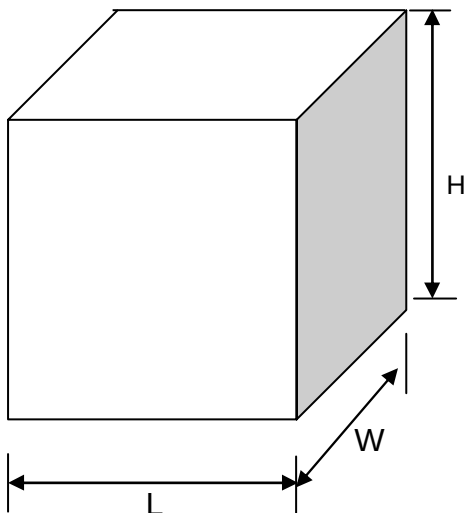
Unit:mm

A: 卷盘规格/Reel spec.



Item	Symbol	Dimension
Dimeter	A	76.4±0.1
	B	82.5±0.2
	C	330±0.5
Width	W	72±0.2
Thickness	W1	3±0.2

B: 外箱规格/Outer Box Specification



Item	Symbol	Dimension
Size	L	350±2
	W	350±2
	H	340±4

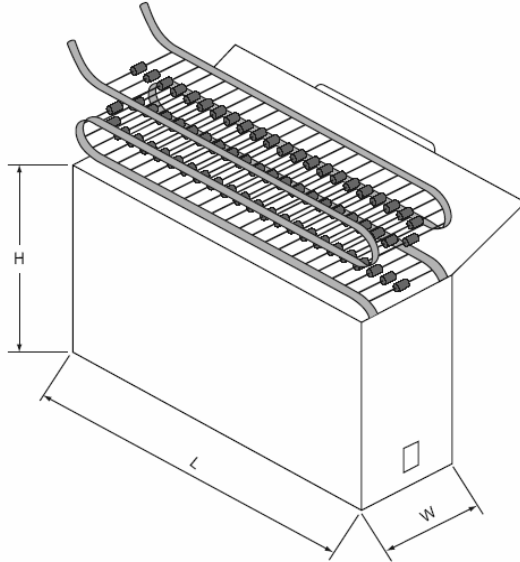
按以上包装方式: (As per the above spec)

	外型/Outside		
	DO-41 & A-405	DO-15	DO-201AD
Q'ty/Taping	5K	4K	1.4K
Q'ty/Packing Case	20K	16K	5.6K

2. 弹带盒装/Ammo Packing

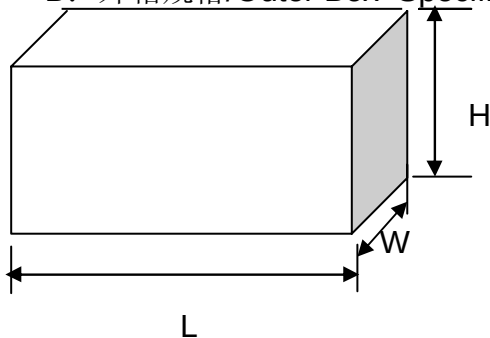
Unit:mm

A: 弹带盒规格/Ammo Box Spec.



Item	Symbol	Dimension	Notes
Box's Size	L	260±2	52mm TYPE
	W	76±2	
	H	100±4	
	L	250±3	26mm TYPE
	W	45±3	
	H	95±5	

B: 外箱规格/Outer Box Specification



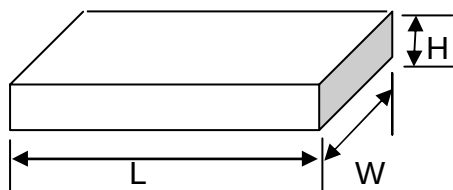
Item	Symbol	Dimension	Notes
Case's Size	L	430±2	52mm TYPE
	W	280±2	
	H	225±4	
	L	435±3	26mm TYPE
	W	280±3	
	H	295±5	

按以上包装方式: (As per the above spec)

	外型/Outside		
	A-405 & DO-41 & R-1	DO-15	DO-201AD
Q'ty/Taping	3K	2K	0.8K
Q'ty/Packing Case 26mm/TYPE	30K	20K	7.2K
Q'ty/Packing Case 52mm/TYPE	60K	40K	14.4K

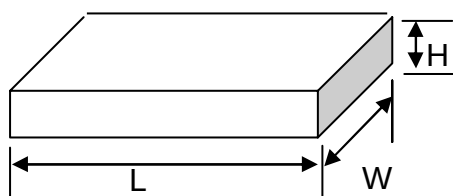
3. 散装/Bulk Packing

A. 包装盒尺寸/Box Dimension



(DO-41&DO-15)

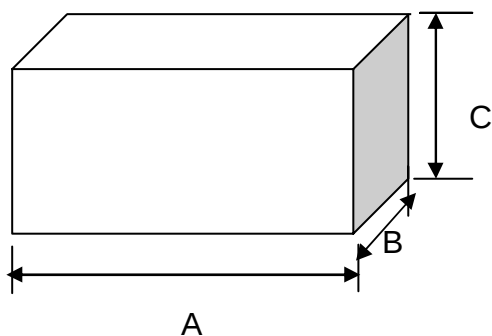
Item	Symbol	Dimension
Box's Size	L	200±2
	W	84±2
	H	21±2



(DO-201AD)

Item	Symbol	Dimension
Box's Size	L	200±2
	W	84±2
	H	29±2

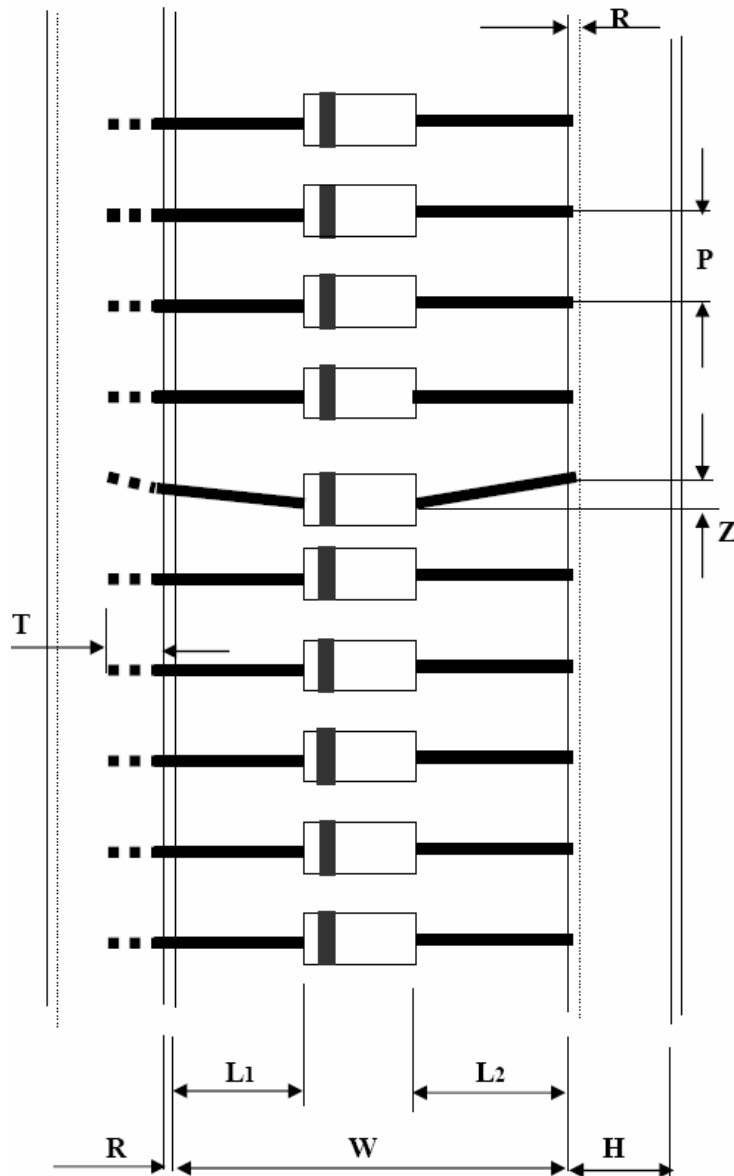
B: 外箱规格/Outer Box Specification



Item	Symbol	Dimension
Case's Size	L	465±2
	W	225±2
	H	260±4

按以上包装方式: (As per the above spec)

	外型/Outside		
	DO-41&A-405&R-1	DO-15	DO-201AD
Q'ty/Taping	1K	0.5K	0.3K
Q'ty/Packing Case	50K	25K	12K

4. 编带图形及规格/Taping Specification


Unit:mm

尺寸代号	编带尺寸/Tape Dimension		
Dimension Code	26/tape	52/tape	52/tape#
W	26 0.0/+1.6	52 -1.0/+2.0	52 -1.0/+2.0
P	5±0.5	5±0.5	10±0.5
L1-L2	<1.0	<1.2	<1.2
H	6±1.0	6±1.0	6±1.0
Z	<1.2	<1.2	<1.2
R	<1.0	<1.0	<1.0
T	>3.2	>3.2	>3.2

注: 52编带# 为DO-201AD编带规格

Remark: 52 tape# is DO-201AD taping spec.