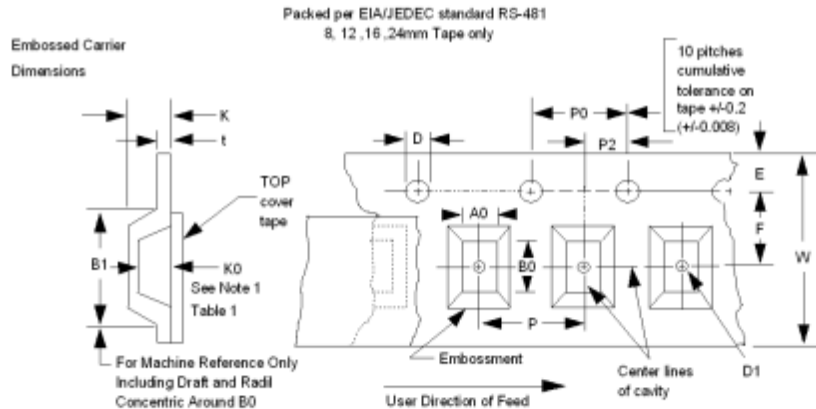


### SURFACE MOUNT PACKAGING - REV. JULY, 2018



**EMBOSSED TAPE** ALL DIMENSION IN MILLIMETERS

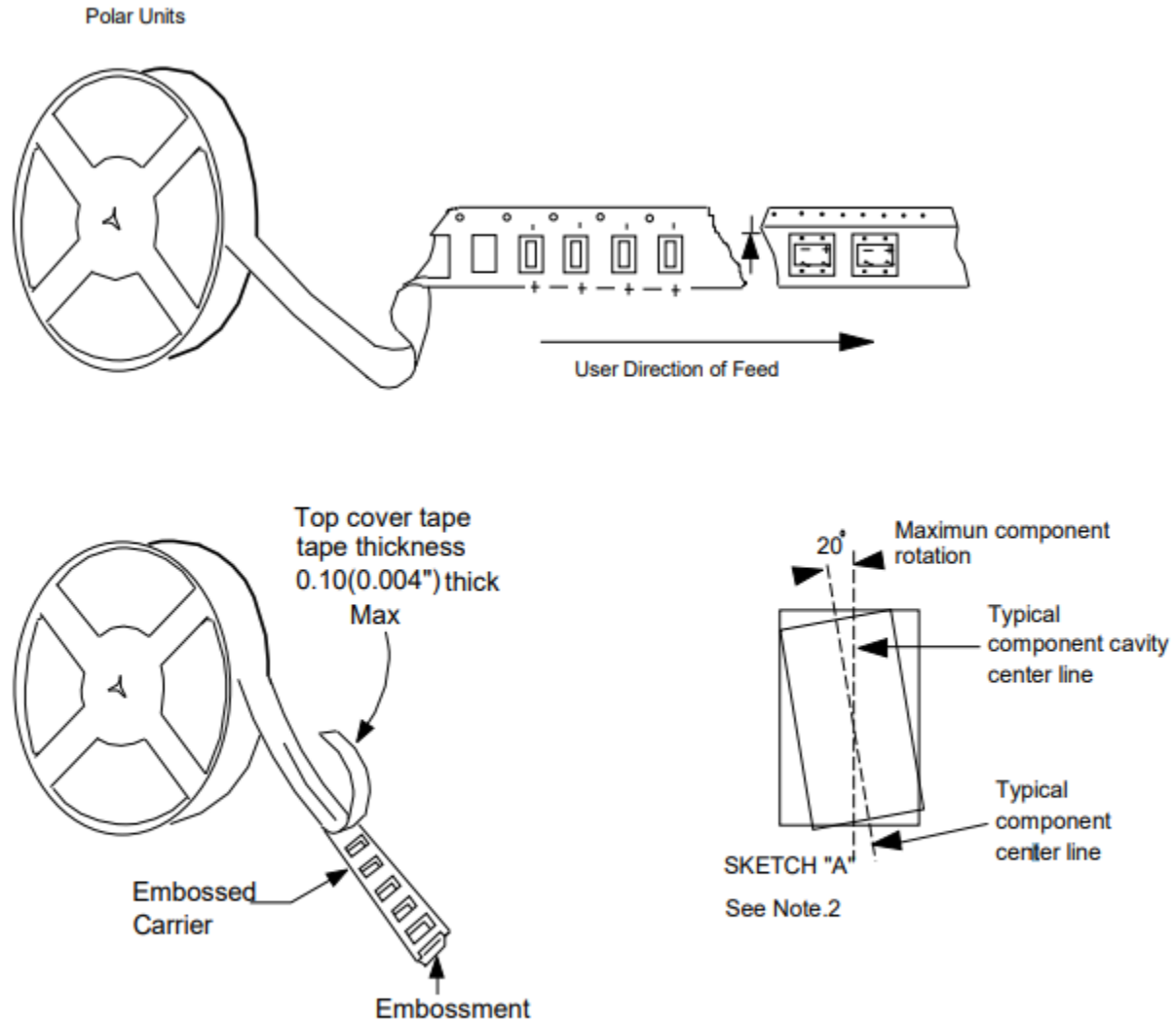
TAPE SIZE	D	E	P0	t (MAX)	A0B0K0	CONSTANT DIMENSION
8mm/ 12mm 16mm/ 24mm	1.55+0.10/-0.0	1.75+/-0.10	4.0+/-0.10	0.4	SEE NOTE 1	

PRODUCT TYPE	TAPE SIZE	B1 MAX	D1 MIN	F	K MAX	P2	W	P			
SOT Series SOD-123 SOD-323 SLP1006P3 SLP1610P4 SLP1616P6 SLP2510P8 SLP2626P10 SLP2513P12 SLP3016P12 FBP-02C FBP-03B LL-34	8mm	4.5	1.0	3.5+/-0.05	2.4	2.0+/-0.05	8.0+/-0.030	4.0+/-0.10	VARIABLE DIMENSIONS		
SOD-523 SOD-723 SOD-882 SOD-923								2.0+/-0.05			
SOD-123F								4.0+/-0.10			
SOD-323F SLP2116P8 SLP1210P6											
SOD-523F								0.4		2.0+/-0.05	
DFN3030								3.23 1.0		0.805	4.0+/-0.10
DFN3020								3.23 1.0		0.805	4.0+/-0.10
DFN2520								2.68 1.0		0.75	4.0+/-0.10
DFN4040								4.25 1.5		0.9	8.0+/-0.10
DO-219								5.0 1.00		1.85	2.0+/-0.10
SLP5020P8 SLP4016P16 SLP3313P16 LL-41 SOP-8 MSOP-10L DO-222AA DO-221AC DO-216AA SMA SMB HDDF/ TD/ MSB1 SOT-223 PDFN56 ABS / HDS MBF SMC	12mm	5.4	1.0	5.5+/-0.1	1.2	2.0+/-0.05	12.0+/-0.30	4.0+/-0.10			
3.4					8.0+/-0.10						
2.4											
1.65					4.0+/-0.10						
1.37											
4.5					8.0+/-0.10						
1.2											
1.8					2.0+/-0.1						
1.66											
3.29					8.0+/-0.10						
3.7					12.0+/-0.10						
3.15					8.0+/-0.10						
11.5+/-0.10					20.1			6.5	2.0+/-0.1	24.0+/-0.30	16.0+/-0.10
F5					24mm			15.4	11.5+/-0.10	2.2	2.0+/-0.1
DO-219	12mm	5.1	1.0	5.5+/-0.10	1.9	2.0+/-0.1	12.0+0.30/-0.10	4.0+/-0.10			
DFN8080	16mm	8.3		7.5+/-0.10	1.15	2.0+/-0.1	16.0+/-0.30	12.0+/-0.10			

**Note 1:**

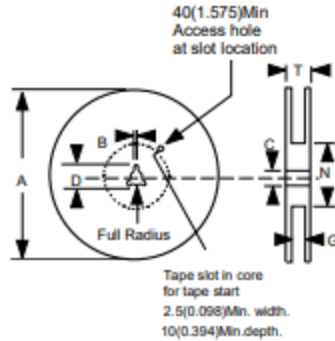
A0B0K0 are determined by component size. The clearance between the component and the cavity must be within 0.05 min. to 0.50 max. for 8 mm tape. 0.05 min. to 0.65 max. for 12mm tape. 0.15 min. to 0.90 max. for 16mm tape and 0.05 min. to 1.00 max. for 24 mm tape and larger.

**SURFACE MOUNT PACKAGING - REV. JULY, 2018**



**NOTE 2:** The component can not rotate more than 20° within the determined cavity, see sketch "A" below

### SURFACE MOUNT PACKAGING - REV. JULY, 2018



#### REEL DIMENSIONS

Unit: mm

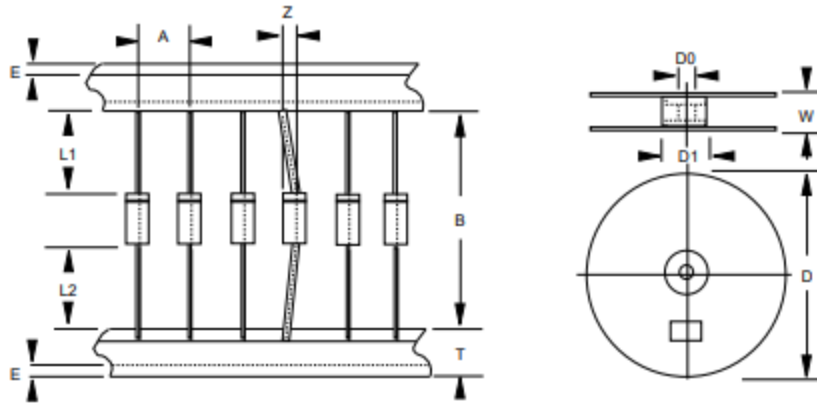
TAPE SIZE	A MAX.	B MIN.	C	D MIN.	N MIN.	G	T MAX.
8mm	178	1.5	13.0+/-0.5	20.2	75	8.4+1.5/-0.0	14.4
12mm	12.4+2.0/-0.0					18.4	
16mm	12.4+2.0/-0.0					22.4	
4mm	12.4+2.0/-0.0					30.4	
12mm(DO-219)	330	2.2+/-0.3	13.2+/-0.5	54	9.5+2.0/-0.0	12.4+2.0/-0.0	18.4
8mm(DO-219)	178					15	

DEVICE TYPE	QTY/REEL (PCS)	REEL DIA. (mm)	BOX SIZE (mm)	QTY/BOX (PCS)	CARTON SIZE (mm)	QTY/CARTON (PCS)			
SMA	5000	330	334x334x21	5000	350x350x340	60000			
SMB	3000			3000		36000			
HDDF/ TD / MSB1				3000		36000			
SMC				3000		36000			
MSOP-10L/SOP-8	6000			365x355x445		48000			
TT	2000			338x338x26		2000	350x350x340	20000	
DF-S	1500					1500		15000	
TO-252	2500					2500		2500	
D2PAK	800					800		6400	
DO-222A/DO-216AA	12000					12000		144000	
DO-221AC	10000					334x334x21		10000	120000
DO-219	10000					353x347x50		5000	380x360x315
SOT-223	2500			184x184x72		12000	380x380x360	192000	
DO-222A/DO-216AA	3000					10000		160000	
DO-221AC	2500	6000	96000						
DO-219	1500	2000	32000						
SMA	500	184x184x88	2000		32000				
SMB	3000	178	206x207x203	45000	438x438x241	90000 / 180000			
SMC				36000		72000			
SOT SERIES SOD-123/323/523/723 FBP-Q2C/03B SLP1006P3, SLP1610P4 SLP1616P6, SLP2510P8 SLP2116P8, SLP2626P10, SLP2513P12, SLP3016P12, SLP1210P6 SLP4016P16, SLP3313P16						30000	60000 / 120000		
SLP5020P8						150000	300000		
SOD-882				10000		120000	480000		
SOD-923				8000		15000	90000		
LL-34				2500		9000	54000		
LL-41				1500		18000	108000		
SOD-123F SOD-323F/ SOD-523F				3000		188x183x80	386x285x215	18000	108000
F5				1500				330	345*355*43
PDFN56	3000	330	345*355*30	3000	355*346*376			30000	
DFN4040	3000	330	345*355*30	3000	355*346*376			30000	
DFN8080	2500	330	345*355*30	2500	355*346*376	25000			
DFN3020 DFN3020 DFN2520	3000	178	207*206*208	45000	438*224*227	90000			

**REEL PACKAGING – REV. JULY, 2018**

Axial devices are packed in accordance with EIA standard RS-296-D and specification.

COMPONENT OUTLINE	COMPONENT PITCH A	COMPONENT PITCH B	CUMULATIVE PITCH TOLERANCE	Q'TY PER REEL	Q'TY PER CARTON	Carton Dimension
T-1	5.0 mm	52.4mm	2.0mm/10 pitch	5000	20K	340x340x340 mm
DO-41				5000	20K	
DO-15				4000	16K	
DO-201/DO-201AD	10 mm			1200	4.8K	
R-6				700	2.8K	



ITEM	SYMBOL	SPECIFICATION (mm)
Component alignment	Z	1.2 Max.
Tape width	T	6.0 +/-0.4
Exposed adhesive	E	0.8 Max.
Body eccentricity	L1-L2	1.0 Max
Reel outside diameter	D	330
Reel inner diameter	D1	85.7 +/-0.3
Feed hole diameter	D0	16.6 +/-0.4
Reel width (Note 1)	W	79 +/-1.0

NOTE: 1. The reel width 'W' for 26 mm taping is 50.0 +/- 1.0 mm (1.97" +/- 0.040")

**AMMO BOX PACKAGING - REV. JULY, 2018**



**BOX SIZE**

Unit: mm

Packaging	Products Outline	Dimension "A"	Dimension "B"	Dimension "C"	Q'TY per BOX
26mm Horizontal Ammo Pack	T-1, A-405, DO-41 DO-15	255 ~ 259	50 ~ 54	107 ~ 113	3K 2K
52mm Horizontal Ammo Pack	DO-15	259	83	113	2K
	T-1, A-405, DO-41				3K
	DO-201, DO-201AD				1K
	DO-34 (Glass Seal)	250 ~ 265	76 ~ 80	80 ~ 122	5K/10K
	DO-35 (Glass Seal)				
DO-41 (Glass Seal)	250	80	80	3K	

**CARTON SIZE**

Packaging	Products Outline	Dimension Length	Dimension Width	Dimension Height	Q'TY per Carton
26mm Horizontal Ammo Pack	T-1, A-405, DO-41	530	300	280	54K
	DO-15				36K
52mm Horizontal Ammo Pack	DO-15	545	300	280	24K
	T-1, A-405, DO-41				36K
	DO-201, DO-201AD				12K
	DO-34 (Glass Seal)	405 ~ 430	270 ~ 275	270 ~ 340	100K
	DO-35 (Glass Seal)				
	DO-41 (Glass Seal)				

**BULK PACKAGING**

**BOX:**

DEVICE TYPE	PACKAGING SIZE (m.m.)		QUANTITY (EA)		APPROX GROSS WEIGHT(KG)	
	BOX	CARTON	BOX	CARTON	BOX	CARTON
A-405	196x84x20	450x210x250	1000	50K	0.29	15.8
DO-41	196x84x20	450x210x250	1000	50K	0.38	20
DO-15	196x84x20	450x210x250	800	40K	0.38	20
DO-201/DO-201AD	305x93x59	395x315x340	1000	20K	1.2	25
R-6	305x93x59	395x315x340	500	10K	1.15	23.6
WOG	-----	-----	1000	10K	1.6	18

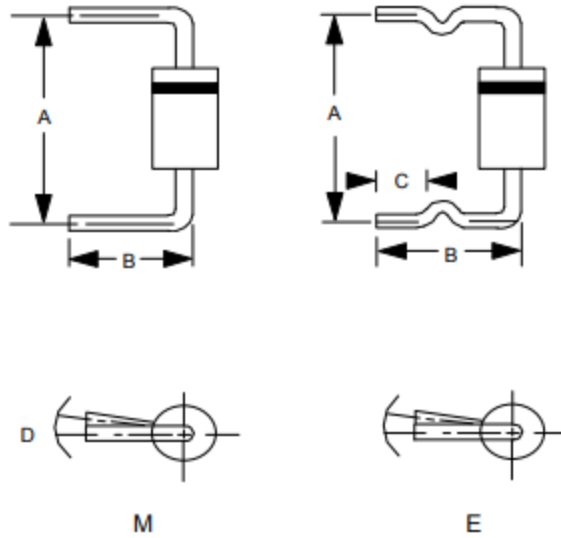
**TUBE:**

DEVICE TYPE	PACKAGING SIZE (m.m.)			QUANTITY (EA)			APPROX GROSS WEIGHT(KG)		
	TUBE	BOX	CARTON	TUBE	BOX	CARTON	TUBE	BOX	CARTON
DF	444x15x13.3	490x155x145	510x330x275	50	4000	16K	0.04	3.5	14
TO-220	537x34x 6.0	555x165x95	575x179x225	50	2000	4K	0.14	5.8	14.9
TO-3P	502x46x 8.0	550x150x125	575x180x275	30	840	1.68K	0.24	7.1	15.1
DF-S	444x15x5.9	490x155x145	350x350x340	50	4000	16K	0.03	6.8	14
KBJ	525x37.3x7.1	550x200x110	580x230x270	20	1000	2K	0.16	7.4	15
KBP /GBP	531x29.6x6.2	550x200x122	580x230x270	35	2800	5.6K	0.09	7.3	15.4
GBU	465x41.5x6.2	500x200x120	520x210x265	20	1000	2K	0.132	6.6	14.2
GBJ	475x42.5x7.2	500x200x120	520x210x265	15	600	1.2K	0.16	7.5	17
GBL	535x35x6.5	550x200x122	580x220x260	25	1500	3K	0.095	6.1	13.2

**TRAY:**

DEVICE TYPE	PACKAGING SIZE (m.m.)		QUANTITY (EA)		APPROX GROSS WEIGHT(KG)	
	TRAY	CARTON	TRAY	CARTON	TRAY	CARTON
KBPC-G	320x280x30	330x290x210	100	0.5K	2.4	13
KBPC-GW	320x280x30	330x290x210	100	0.5K	2.1	11.5
GBPC	320x280x30	330x290x210	100	0.5K	1.98	11
GBPC-W	320x280x30	330x290x210	100	0.5K	1.70	9.5

PREFORMED LEAD DRAWING - REV. JULY, 2018

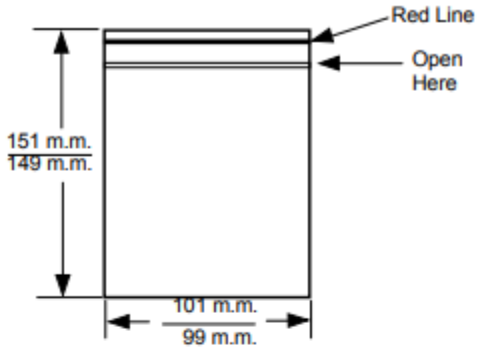


Case type	Preformed type	A (mm)		B (mm)		C (mm)		D (mm)		R (mm)	
		Range	Tolerance	Range	Tolerance	Range	Tolerance	Range	Tolerance	Range	Tolerance
DO-41	M	11.0-20.0	+/-0.5	8.0-20.0	+/-0.5	---	---	1.5	max	---	---
A-405	E	11.0-20.0	+/-0.5	11.0-16.0	+/-1.0	4.0-5.0	+/-0.5	1.5	max	---	---
DO-15	M	13.0-20.0	+/-0.5	8.0-22.0	+/-0.5	---	---	1.5	max	---	---
	E	13.0-20.0	+/-0.5	11.0-16.0	+/-1.0	4.0-5.0	+/-0.5	1.5	max	---	---
DO-201	M	15.0-20.0	+/-1.0	8.0-22.0	+/-1.0	---	---	2.0	max	---	---
DO-201AD	E	15.0-20.0	+/-1.0	10.0-22.0	+/-1.0	3.0-5.0	+/-0.5	2.0	max	---	---
R-6	M	15.0-20.0	+/-1.0	8.0-22.0	+/-1.0	---	---	2.0	max	---	---

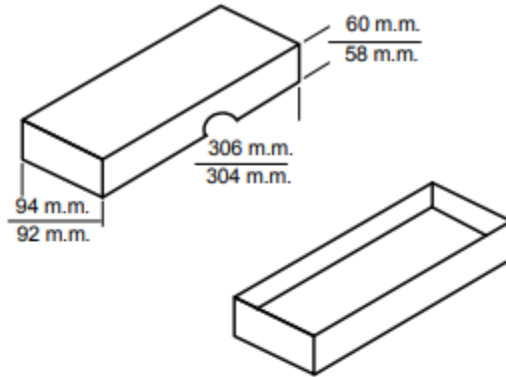
● Press Forming Also Available

PACKAGE OF PREFORMED DIODE- REV. JULY, 2018

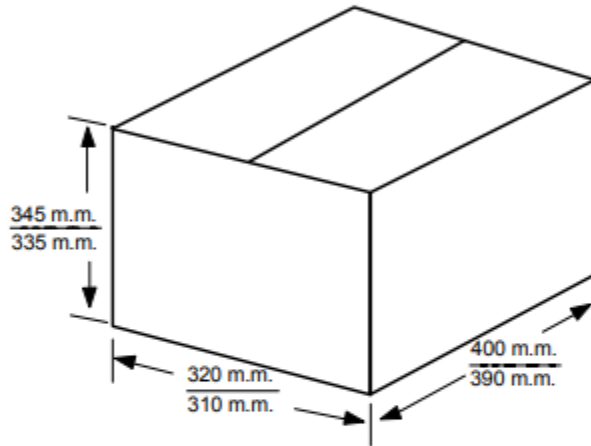
A. PLASTIC BAG



B. BOX



C. CARTON



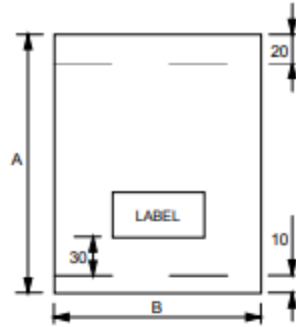
Case Type	Preformed Type	Q'TY/Plastic Bag	Q'TY/Box	Q'TY/Carton	
DO-41 DO-41L	M	Short Type	400	2K	40K
		Long Type	250	1.25K	25K
	E	500	2.5K	50K	
	B	250	1.25K	25K	
DO-15	C	500	2.5K	50K	
	M	400	2K	40K	
DO-201 DO-201AD	E	400	2K	40K	
	M	100	500	10K	
R-6	E	100	500	10K	
	M	100	500	10K	

\* Preformed Type see front page.

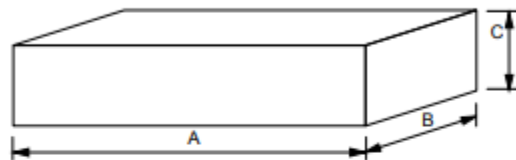
(Unit : PCS)

PACKAGE OF TO-92 SERIES - REV. JULY, 2018

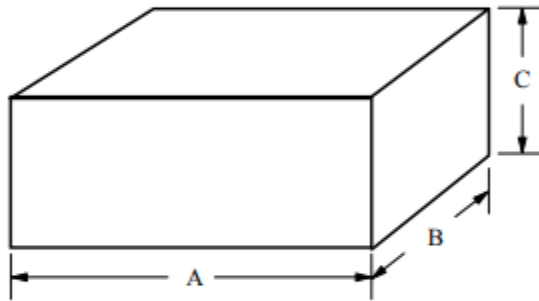
1. Plastic Bag



2. Inner Box



3. Carton



BULK PACKAGING

Unit: mm

P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'TY PER	REMARK
PLASTIC BAG	185	125		1K	
INNER BOX	242	170	100	10K	10 BAG
CARTON	520	360	270	100K	10 INNER BOX

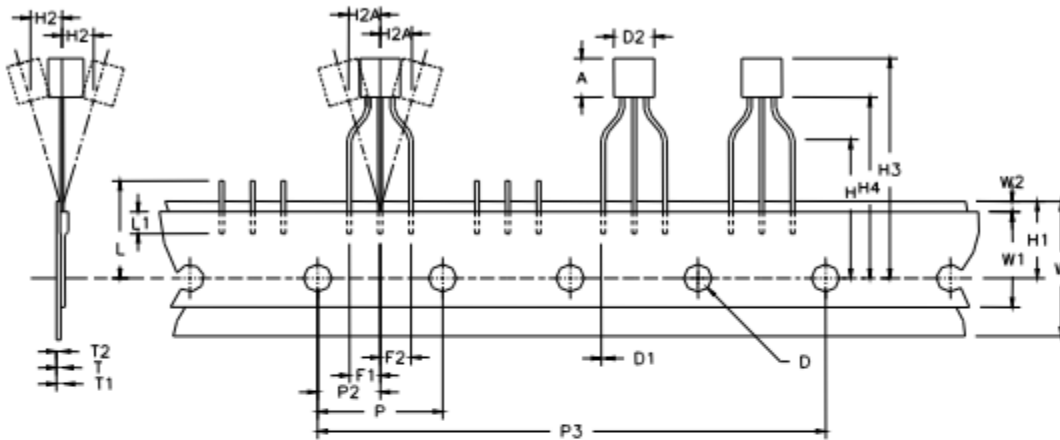
TAPPING PACKAGING

P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'TY PER	REMARK
INNER BOX	330	200	41	2K	1 PACK
CARTON	430	360	280	20K	10 INNER BOX



PACKAGE OF TO-92 SERIES - REV. JULY, 2018

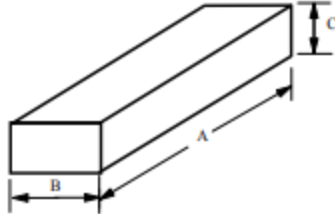
*Tape reel packing :*



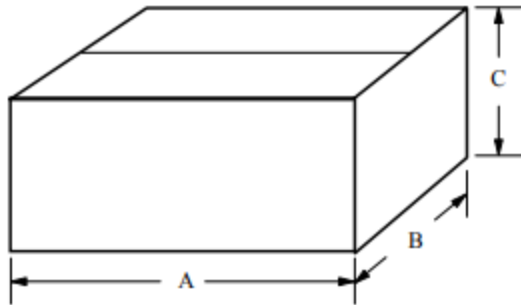
SYMBOL	ITEM	Metric system	Dimensions in inch
A	Body height	4.4-4.8	0.173-0.189
D	Sprocket hole diameter	4.0±0.2	0.158±0.008
D1	Lead-wire diameter	0.45-0.55	0.018-0.022
D2	Body diameter	4.4-4.8	0.173-0.189
F1.F2	Component lead spacing	2.5+0.4. -0.1	0.1+0.015. -0.004
H	Lead wire clinch height	16±0.5	0.63±0.02
H1	Sprocket hole position	9±0.5	0.354±0.02
H2	Body shift	1MAX	0.04MAX
H3	Overall height above abscissa	32.0MAX	1.26MAX
H4	Height of component from tape	21.0MAX	0.827MAX
P	Sprocket hole pitch	12.7±0.2	0.5±0.008
P2	Sprocket hole center to lead	6.35±0.4	0.25±0.018
P3	4 Sprocket holes pitch	50.8±0.5	2.0±0.02
T	Total tape thickness	0.55MAX	0.022MAX
W	Total tape width	17.5-19	0.689-0.748
W1	Carrier tape width	5.0-7.0	0.197-0.276
W2	Sprocket hole position	0.5MAX	0.02MAX
—	20 Sprocket holes pitch	254.0±1	10±0.04

PACKAGE OF TO-220 (SCR/TRIAC/MOSFET) - REV. JULY, 2018

1. INNER BOX



2. CARTON



Unit: mm

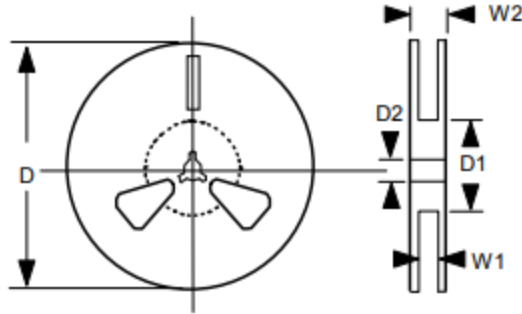
P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'TY PER	REMARK
TUBE	537	34	6	50	
INNER BOX	575	150	50	1K	20 TUBE / 5 FLOORS
CARTON	595	270	170	5K	5 INNER BOX

PACKAGE OF TO-3P (MOSFET)

Unit: mm

P/N	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	Q'TY PER	REMARK
TUBE	507	48	8	30	
INNER BOX	555	160	130	840	28TUBES
CARTON	565	170	270	1680	2 INNER BOXS

SWITCHING DIODE REEL PACKAGING - REV. JULY, 2018



Reel Dimension

Unit: mm (inch)

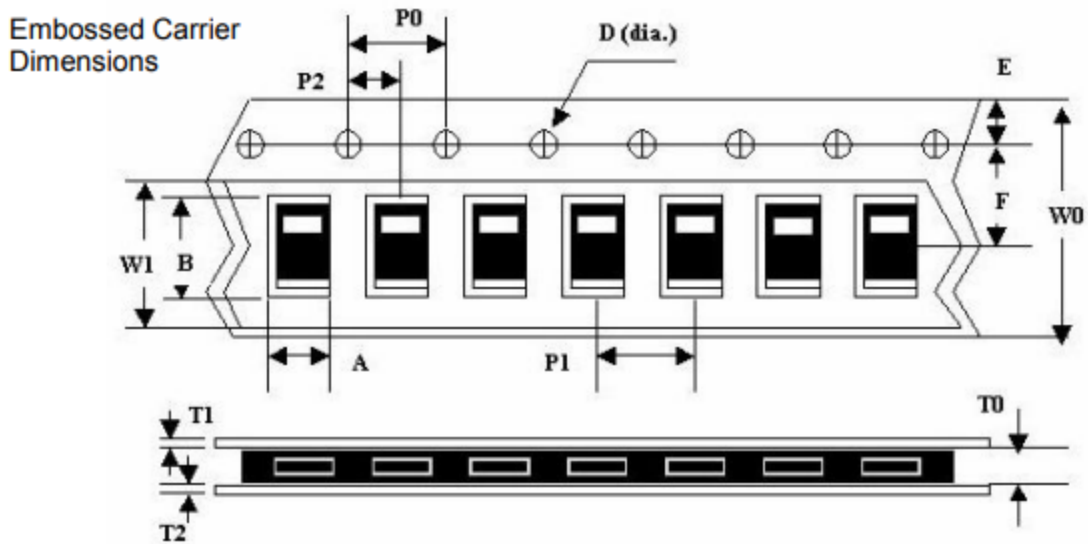
Item	Symbol	Dimension
Feed hold diameter	D2	13.0+/-0.2 (0.512+/-0.008)
Reel inner diameter	D1	60.0+/-0.5 (2.36+/-0.02)
Reel outside diameter	D	178.0+/-1.0 (7.008+/-0.04)
Reel inner width	W1	9.0+/-0.5 (0.354+/-0.02)
Reel outside width	W2	12.0+/-0.15 (0.472+/-0.006)

PACKING

Unit: mm

DEVICE TYPE	Q'TY/REEL (PCS)	REEL DIA. (mm)	BOX SIZE (mm)	Q'TY/BOX (PCS)	CARTON SIZE (mm)	Q'TY/CARTON (PCS)
1206	5000	178	181x181x74	30000	393x367x189	300000
0805						
0603						

SWITCHING DIODE REEL PACKAGING - REV. JULY, 2018



EMBOSSSED TAPE

Unit: mm

Item		Symbol	Dimension
Punch hole idth	1206	A	2.00+/-0.2 (0.079+/-0.008)
	805		1.65+/-0.2 (0.065+/-0.008)
	603		1.20+/-0.2 (0.047+/-0.008)
Punch hole length	1206	B	3.50+/-0.2 (0.138+/-0.008)
	805		2.40+/-0.2 (0.094+/-0.008)
	603		1.90+/-0.2 (0.075+/-0.008)
Sprocket hole		D	1.60+/-0.05 (0.063+/-0.002)
Sprocket hole position		E	1.75+/-0.10 (0.070+/-0.004)
Punch hole position		F	3.50+/-0.05 (0.140+/-0.002)
Sprocket hole pitch		P0	4.00+/-0.10 (0.160+/-0.004)
Punch hole pitch		P1	4.00+/-0.10 (0.160+/-0.004)
Punch hole center		P2	2.00+/-0.05 (0.08+/-0.002)
Base tape width		W0	8.00+/-0.20 (0.320+/-0.008)
Top/Bottom seal tape width		W1	5.25+/-0.05 (0.210+/-0.002)
Base tape thickness		T0	0.95+/-0.02 (0.038+/-0.008)
Top seal tape thickness		T1	0.0054+/-0.005 (0.002+/-0.0002)
Bottom seal tape thickness		T2	0.042+/-0.05 (0.0016+/-0.0002)