

# RB501V-40-AU

## SURFACE MOUNT SCHOTTKY DIODES

**Voltage**

**45 V**

**Current**

**0.1 A**

### Features

- Low forward voltage drop
- Deal for automated placement
- Low power loss, high efficiency
- High surge current capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

### Mechanical Data

- Case: SOD-323 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.00014 ounces, 0.0041 grams

### SOD-323



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	45	V
Maximum Rms Voltage	V <sub>RMS</sub>	32	V
Maximum Dc Blocking Voltage	V <sub>DC</sub>	45	V
Maximum Average Forward Current	I <sub>F(AV)</sub>	0.1	A
Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	1	A
Typical Junction Capacitance Measured at 1 MHz And Applied V <sub>R</sub> = 4 V	C <sub>J</sub>	8	pF
Typical Thermal Resistance	R <sub>θJA</sub> <sup>(1)</sup>	650	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

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## Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10 mA, T <sub>J</sub> = 25 °C	-	-	0.34	V
		I <sub>F</sub> = 100 mA, T <sub>J</sub> = 25 °C	-	-	0.55	
		I <sub>F</sub> = 10 mA, T <sub>J</sub> = 100°C	-	0.17	-	
		I <sub>F</sub> = 100 mA, T <sub>J</sub> = 100°C	-	0.34	-	
Reverse Current	I <sub>R</sub> <sup>(2)</sup>	V <sub>R</sub> = 10 V, T <sub>J</sub> = 25 °C	-	-	10	uA
		V <sub>R</sub> = 45 V, T <sub>J</sub> = 25 °C	-	-	100	
		V <sub>R</sub> = 45 V, T <sub>J</sub> = 100 °C	-	950	-	

NOTES:

1. Mounted on a FR4 PCB, single-sided copper, mini pad.
2. Short duration pulse test used to minimize self-heating effect

# RB501V-40-AU

## TYPICAL CHARACTERISTIC CURVES

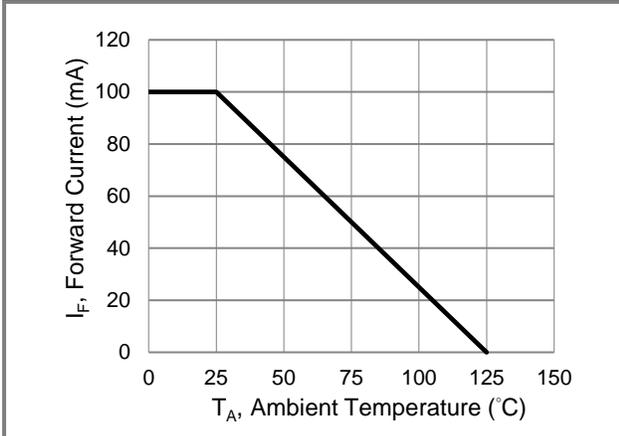


Fig.1 Forward Current Derating Curve

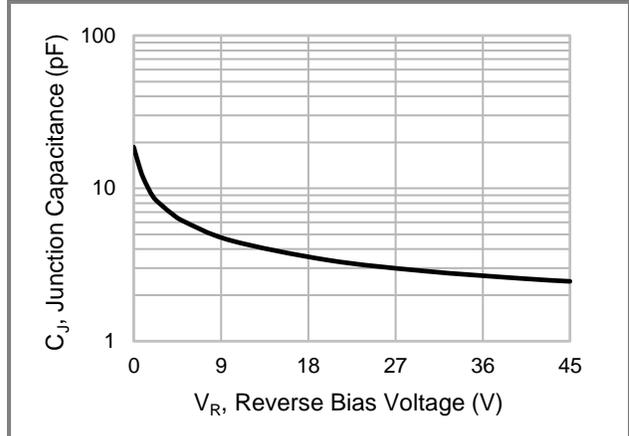


Fig.2 Typical Junction Capacitance

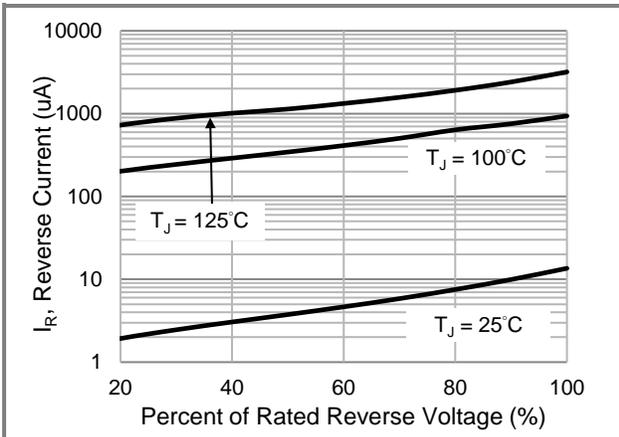


Fig.3 Typical Reverse Characteristics

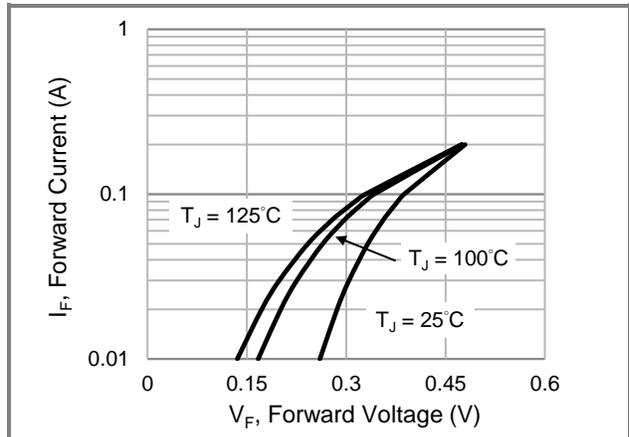


Fig.4 Typical Forward Characteristics

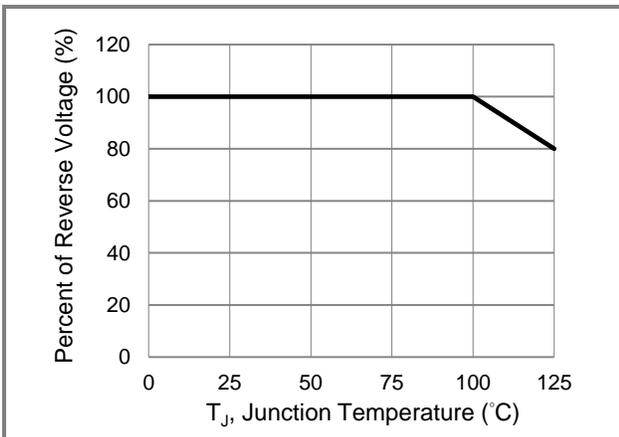


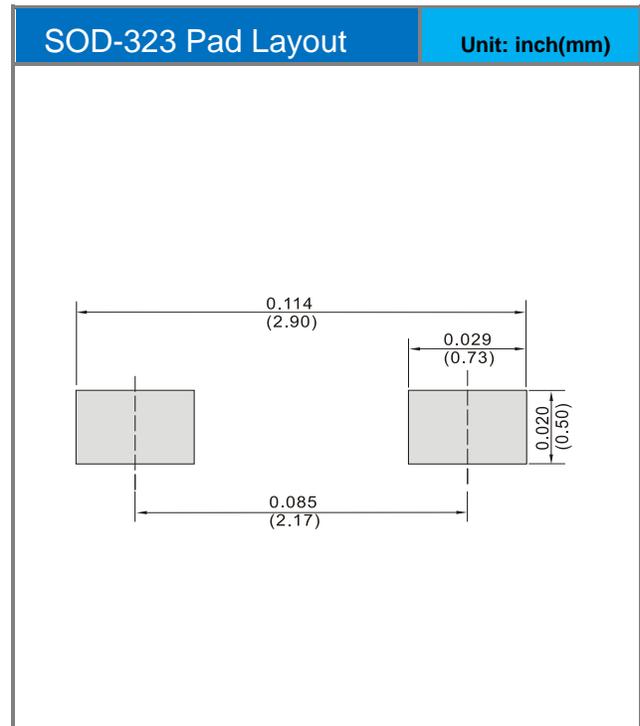
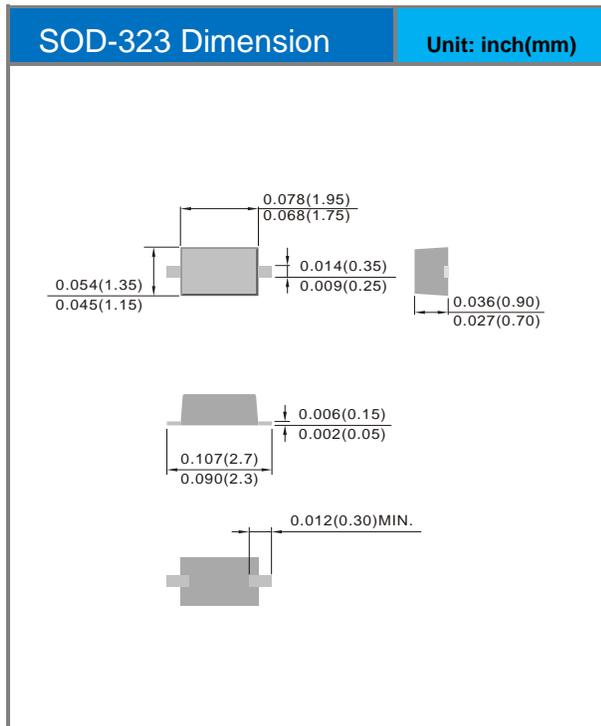
Fig.5 Operating Temperature Derating Curve

# RB501V-40-AU

## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
RB501V-40-AU	SOD-323	5K / 7" Reel	501

## Packaging Information & Mounting Pad Layout

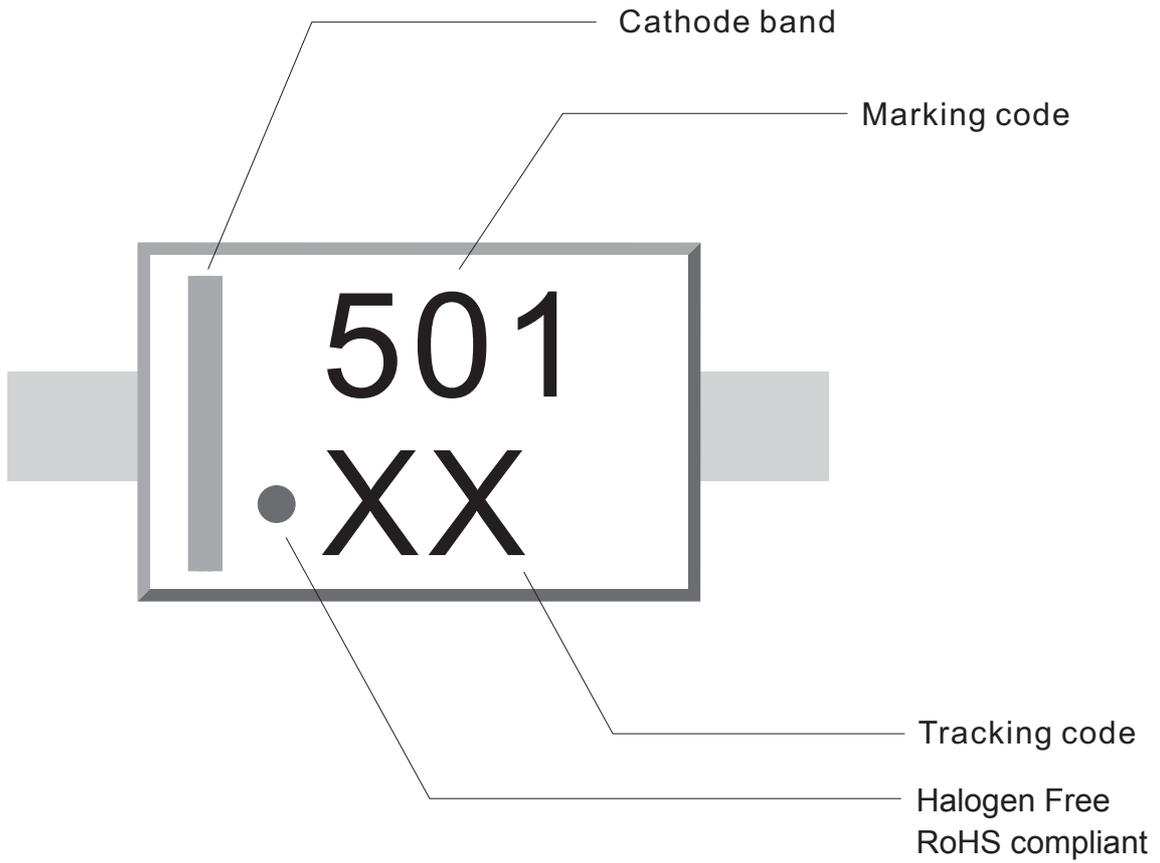


## RB501V-40-AU

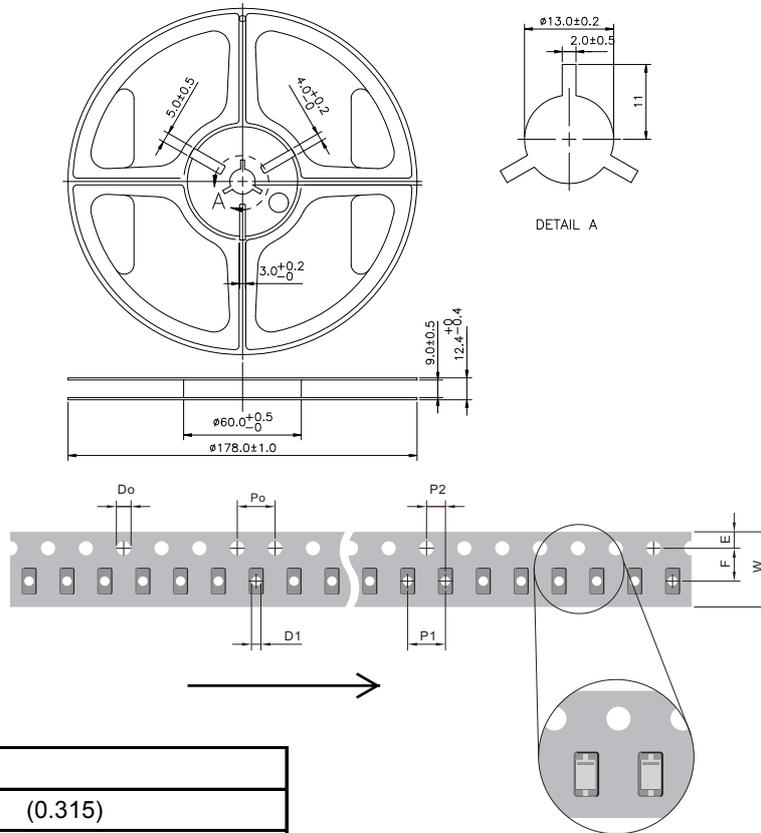
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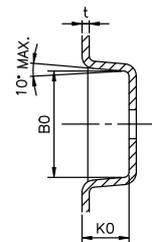
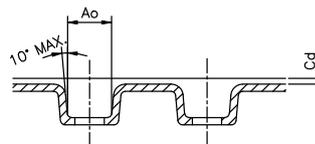
## 2.MARKING



### 3. TAPING



SYMBOL	mm(inch)
TYPE SIZE	8.00 (0.315)
Do	1.55 ± 0.05 (0.061 ± 0.002)
Do	1.5+0.1/-0 (0.059+0.004/-0)
D1	1.0+0.25/-0 (0.040+0.01/-0)
D1	1.00 ± 0.10 (0.040 ± 0.004)
E	1.75 ± 0.10 (0.069 ± 0.004)
F	3.50 ± 0.05 (0.137 ± 0.002)
Po	4.00 ± 0.10 (0.157 ± 0.004)
P1	4.00 ± 0.10 (0.157 ± 0.004)
P2	2.00 ± 0.05 (0.079 ± 0.002)
W	8+0.3/-0.1 (0.315+0.012/-0.004)
W	8.00 ± 0.15 (0.315 ± 0.006)
Ao	1.42 ± 0.10 (0.060 ± 0.004)
B0	2.86 ± 0.10 (0.113 ± 0.004)
K0	0.89 ± 0.10 (0.035 ± 0.004)
t	0.20 ± 0.02 (0.008 ± 0.001)
Cd	0.15 MAX.(0.006 MAX.)

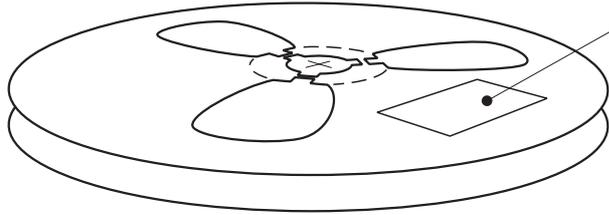


Note:

1. There shall be a leader of 400 mm minimum of cover tape and carrier tape with empty compartments.
2. There shall be a trailer of 160 mm minimum of cover tape and carrier tape with empty compartments.
3. Devices are packed in accordance with EIA standard EIA-481 and specifications given above.

# 4. PACKING

## REEL PACKING

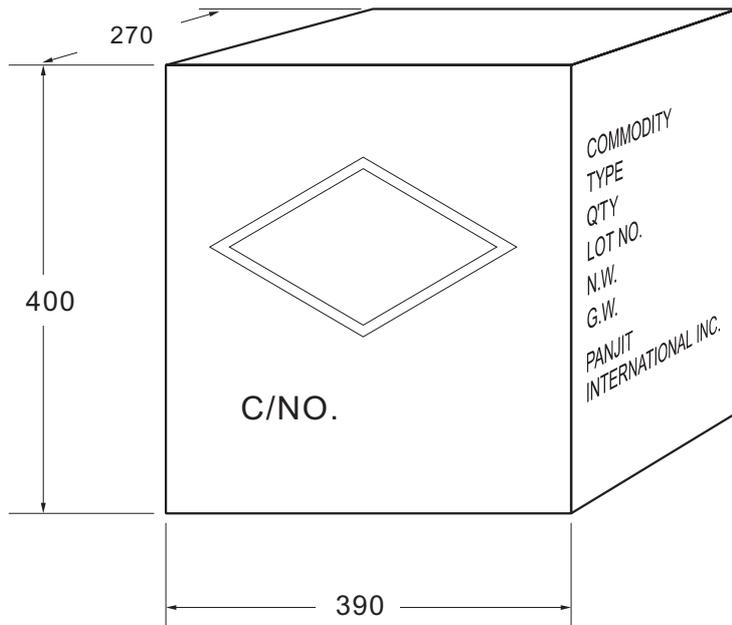


Quantity per Reel: 5,000 pcs

### LABEL TYPE

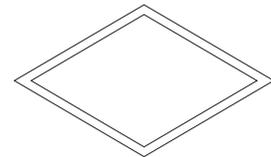


## CARTON



Box Dimensions : mm  
Quantity per Box: 400,000pcs

### SHIPPING MARK



C/NO.  
PRODUCT COUNTRY

### SIDE MARK

COMMODITY:  
TYPE:  
Q'TY:  
LOT NO.  
N.W.  
G.W.  
PANJIT  
INTERNATIONAL INC.

Packing Specifications

Package	Reel Size	Reel	Carton	Carton Size	Approx. Gross Weight
	(inch)	(pcs)	(EA)	(mm)	(kg)
Reel Packing					
DFN0603	7	10,000	800,000	390 x 270 x 400	9.0
DFN0603-2L	7	10,000	800,000	390 x 270 x 400	9.0
DFN 2L	7	8,000	640,000	390 x 270 x 400	8.6
DFN 3L	7	8,000	640,000	390 x 270 x 400	8.6
DFN1006-2L	7	10,000	800,000	390 x 270 x 400	5.0
DFN1006-3L	7	10,000	800,000	390 x 270 x 400	5.0
DFN1010-6L(ESD)	7	5,000	400,000	455 x 270 x 440	8.84
DFN1010B-6L(ESD)	7	5,000	400,000	455 x 270 x 440	8.84
DFN1608-2L	7	3,000	240,000	390 x 270 x 400	9.7
DFN1610-2L	7	3,000	240,000	390 x 270 x 400	9.7
DFN2020-6L(ESD)	7	3,000	240,000	455 x 270 x 440	12.3
DFN2020B-6L(ESD)	7	3,000	240,000	455 x 270 x 440	12.3
DFN2020-8L(ESD)	7	3,000	240,000	455 x 270 x 440	11.2
DFN2510-10L	7	5,000	400,000	390 x 270 x 400	10.5
	13	12,000	144,000	375 x 360 x 213	6.4
DFN2510A-10L(ESD)	7	3,000	240,000	455 x 270 x 440	10.95
DFN3030B-8L(ESD)	7	3,000	240,000	455 x 270 x 440	10.5
DFN3333-8L	13	5,000	80,000	375 x 360 x 422	10.5
DFN3333B-8L	13	5,000	80,000	375 x 360 x 422	10.5
DFN3810-9L(ESD)	7	3,000	120,000	390 x 240 x 420	4.4
DFN5060-8L(ESD)	13	3,000	48,000	375 x 360 x 422	14.19
DFN5060B-8L(ESD)	13	3,000	48,000	375 x 360 x 422	14.19
DFN5060X-8L(ESD)	13	3,000	48,000	375 x 360 x 422	14.19
DFN5515-14L	7	3,000	240,000	390 x 270 x 400	12.9
DSN1608-2L	7	10,000	800,000	390 x 270 x 400	10
SOP-8	13	2,500	40,000	375 x 360 x 422	7.4
SOD-923	7	8,000	640,000	390 x 270 x 400	7.7
SOD-523	7	5,000	400,000	390 x 270 x 400	9.1
	13	12,000	144,000	375 x 360 x 230	5.4
SOD-323HE	7	5,000	400,000	390 x 270 x 400	11.9
	13	12,000	144,000	375 x 360 x 230	8.3
SOD-323	7	5,000	400,000	390 x 270 x 400	9.4
	13	12,000	144,000	375 x 360 x 230	5.9
SOD-323S	7	3,000	240,000	410 x 290 x 410	
SOD-123HE	7	3,000	240,000	390 x 270 x 400	12.4
	13	10,000	120,000	375 x 360 x 230	8.1
SOD-123FL	7	3,000	240,000	390 x 270 x 400	10.6
	13	10,000	120,000	375 x 360 x 230	7.2
SOD-123	7	3,000	240,000	390 x 270 x 400	9.9
	13	10,000	120,000	375 x 360 x 230	6.5
SOT-143	7	3,000	240,000	390 x 270 x 400	9.0
SOT-723(ESD)	7	8,000	640,000	455 x 270 x 440	10.5
SOT-563	7	4,000	320,000	390 x 270 x 400	10
	13	10,000	120,000	375 x 360 x 230	5.2
SOT-563(ESD)	7	4,000	320,000	455 x 270 x 440	10.8
SOT-553	7	4,000	320,000	390 x 270 x 400	9.4
	13	10,000	120,000	375 x 360 x 230	5.2

**Packing Specifications**

Package	Reel Size	Reel	Carton	Carton Size	Approx. Gross Weight
	(inch)	(pcs)	(EA)	(mm)	(kg)
Reel Packing					
SOT-523	7	4,000	320,000	390 x 270 x 400	10
SOT-523(ESD)	7	4,000	320,000	455 x 270 x 440	10.8
SOT-363	7	3,000	240,000	390 x 270 x 400	9.3
	13	10,000	120,000	375 x 360 x 230	7.1
SOT-363(ESD)	7	3,000	240,000	455 x 270 x 440	10.1
SOT-353	7	3,000	240,000	390 x 270 x 400	10
	13	10,000	120,000	375 x 360 x 230	7.2
SOT-323	7	3,000	240,000	390 x 270 x 400	7.9
	13	12,000	144,000	375 x 360 x 230	6.1
SOT-323(ESD)	7	3,000	240,000	455 x 270 x 440	8.7
SOT-23 6L	7	3,000	240,000	390 x 270 x 400	14.5
	13	10,000	120,000	375 x 360 x 230	7.9
SOT-23 6L(ESD)	7	3,000	240,000	455 x 270 x 440	15.3
SOT-23 6L-1	7	3,000	240,000	390 x 270 x 400	14.9
	13	10,000	120,000	375 x 360 x 230	8.1
SOT-23 6L-1(ESD)	7	3,000	240,000	455 x 270 x 440	15.7
SOT-23 5L	7	3,000	240,000	390 x 270 x 400	14.5
	13	10,000	120,000	375 x 360 x 230	7.9
SOT-23	7	3,000	240,000	390 x 270 x 400	9.8
	13	12,000	144,000	375 x 360 x 230	7
SOT-23(ESD)	7	3,000	240,000	455 x 270 x 440	10.6
SOT-223	13	2,500	40,000	375 x 360 x 422	14.96
SOT-89(ESD)	7	1,000	80,000	455 x 270 x 440	15.64
SMAF	7	3,000	120,000	390 x 240 x 420	10.9
	13	10,000	160,000	375 x 360 x 422	14.1
SMAF-C	7	3,000	120,000	390 x 240 x 420	10.9
	13	10,000	160,000	375 x 360 x 422	14.1
SMBF	7	1,500	60,000	390 x 240 x 420	9.6
	13	5,000	80,000	375 x 360 x 422	15.6
SMA(W)	7	1,800	100,800	390 x 240 x 420	13
	13	7,500	150,000	355 x 355 x 400	20.45
SMAS	7	2,300	128,800	390x 240x 420	11.5
	13	9,500	190,000	355x 355 x 400	16.1
SMA/DO-214AC	7	1,800	72,000	390 x 220 x 370	9.98
	13	7,500	120,000	375 x 360 x 390	17.35
SMB/DO-214AA	7	800	32,000	390 x 220 x 370	7.69
	13	3,000	48,000	375 x 360 x 390	13.23
SMC/DO-214AB	7	800	24,000	390 x 220 x 370	10.79
	13	3,000	42,000	375 x 360 x 390	17.98
SC-59 (ESD)	7	3,000	240,000	455 x 270 x 440	9.9
DO-41	13	5,000	25,000	340 x 340 x 410	11.04
DO-15	13	4,000	20,000	340 x 340 x 410	11.39
DO-201AD / DO-201AE	13	1,250	6,250	340 x 340 x 410	9.2
DO-218AC / DO-218AB	13	600	24,000	375 x 360 x 230	10.25
P-600	13	800	4,000	340 x 340 x 410	9.85

**Packing Specifications**

Package	Reel Size	Reel	Carton	Carton Size	Approx. Gross Weight
	(inch)	(pcs)	(EA)	(mm)	(kg)
Reel Packing					
DO-34	15	10,000	50,000	365 x 370 x 410	10.1
DO-35	15	10,000	50,000	365 x 370 x 410	11.2
DO-41G	15	5,000	25,000	365 x 370 x 410	10.9
MICRO-MELF	7	3,000	240,000	390 x 270 x 400	8.8
	13	10,000	200,000	355 x 355 x 400	11.5
QUADRO-MELF	7	2,500	200,000	390 x 270 x 400	13.3
	13	10,000	200,000	355 x 355 x 400	14.9
MINI-MELF/LL-34	7	2,500	200,000	390 x 270 x 400	12.7
	13	10,000	200,000	355 x 355 x 400	14.6
MELF/DL-41	7	1,500	84,000	390 x 270 x 400	18.3
	13	5,000	100,000	355 x 355 x 400	23.5
MDI	13	3,000	48,000	375 x 360 x 390	14.71
MICRO DIP/TDI	7	1,000	40,000	390 x 240 x 420	9.5
	13	4,000	64,000	375 x 360 x 422	17
MBF	13	5,000	80,000	375 x 360 x 390	15.9
SDIP	13	1,500	21,000	375 x 360 x 390	14.31
TO-277	7	1,500	60,000	390 x 240 x 420	12.2
	13	5,000	80,000	375 x 360 x 422	19.1
TO-277A	13	5,000	80,000	375 x 360 x 422	18.52
TO-277B	13	5,000	80,000	375 x 360 x 422	20.6
TO-252	13	3,000	42,000	375 x 360 x 390	18.8
TO-252AA	13	3,000	48,000	375 x 360 x 422	24.16
TO-252AA	13	3,000	42,000	375 x 360 x 390	20.78
TO-263/D <sup>2</sup> PAK	13	800	6,400	375 x 360 x 390	14.45
TOLL	13	2,000	16,000	375 x 360 x 422	12.5
ABS	13	4,000	6,400	375 x 360 x 422	17.8
M4	13	3,000	42,000	375 x 360 x 390	14
M8	13	2,000	16,000	375 x 360 x 390	16.86

**Packing Specifications**

Package	Box	Inner Box Size	Carton	Carton Size	Approx. Gross Weight
	(EA)	(mm)	(EA)	(mm)	(kg)
Bulk Packing					
DO-41	1,000	198 x 84 x 20	50,000	459 x 214 x 256	19.3
DO-15	1,000	200 x 85 x 25	40,000	459 x 214 x 256	20.7
DO-201AD / DO-201AE	500	200 x 85 x 40	12,500	459 x 214 x 256	15.95
P-600	100	208 x 82 x 40	2,500	459 x 214 x 256	6.83
DO-34	2,000	240 x 90 x 100	120,000	410 x 268 x 345	14.5
DO-35	2,000	240 x 90 x 100	120,000	410 x 268 x 345	17.1
DO-41G	1,000	240 x 90 x 100	60,000	410 x 268 x 345	18.5
TO-220AC	2,000	540 x 145 x 85	8,000	555 x 306 x 200	21.76
ITO-220AC	2,000	540 x 145 x 85	8,000	555 x 306 x 200	19.34
TO-220AB	2,000	540 x 145 x 85	8,000	555 x 306 x 200	22
TO-220AB-L	2,000	540 x 145 x 85	8,000	555 x 306 x 200	24.63
ITO-220AB	2,000	540 x 145 x 85	8,000	555 x 306 x 200	19.58
ITO-220AB-F	2,000	540 x 145 x 85	8,000	555 x 306 x 188	25.5
TO-251AA	8,000	555 x 145 x 87	32,000	570 x 306 x 203	23.87
TO-251AB	8,000	555 x 145 x 95	32,000	572 x 306 x 218	18.64
TO-263/D <sup>2</sup> PAK	2,000	540 x 145 x 85	8,000	555 x 306 x 200	18.7
GBU	250	220 x 120 x 43	5,000	510 x 235 x 245	21.5
GBU-2	1,000	485 x 185 x 120	2,000	500 x 200 x 270	12.54
GBL	300	240 x 120 x 35	6,000	510 x 260 x 200	15
GBL-2	2,000	550 x 200 x 122	4,000	565 x 215 x 265	13.15
GBJ	200	200 x 145 x 42	3,000	455 x 220 x 240	14.5
GBJ-2	900	485 x 185 x 120	1,800	500 x 200 x 270	18.2
GBJA	750	479 x 123 x 113	1,500	500 x 265 x 137	11
KBP	500	225 x 160 x 35	7,500	500 x 236 x 196	12.58
KBPF	500	225 x 160 x 35	7,500	500 x 250 x 195	13.3
KBL	200	257 x 125 x 50	3,000	415 x 275 x 300	17.5
KBU	200	274 x 150 x 60	3,000	470 x 290 x 330	23.7
KBJ	200	306 x 108 x 42	2,000	322 x 246 x 252	15
KBJ-2	1,000	550 x 200 x 122	2,000	565 x 215 x 265	13.13
KBJ-P	250	305 x 130 x 45	2,000	327 x 290 x 210	15.05
D3K	500	210 x 155 x 30	7,500	480 x 225 x 170	11.6
DXK	2,800	550 x 200 x 122	5,600	565 x 215 x 265	13.8
TO-3P/TO-247AD	-	-	1,500	530 x 243 x 100	13.9
TO-247AD 2L / TO-3PL	-	-	1,500	530 x 255 x 110	12.2
TO-247AD-2LD	-	-	1,500	530 x 243 x 100	14.35

**Packing Specifications**

Package	Box	Inner Box Size	Carton	Carton Size	Approx. Gross Weight
	(EA)	(mm)	(EA)	(mm)	(kg)
Tube Packing					
GBJ-1	750	490 x 201 x 104	1,500	505 x 225 x 235	16

**Packing Specifications**

Package	Tape Space	Ammo	Inner Box Size	Carton	Carton Size	Appox. Gross Weight
	(mm)					
Ammunition Packing						
DO-41	52	5,000	255 x 75 x 150	40,000	339 x 276 x 330	15.9
	52	3,000	255 x 73 x 95	24,000	333 x 281 x 218	8.9
DO-15	52	3,000	255 x 75 x 150	24,000	339 x 276 x 330	13.25
	52	1,500	255 x 73 x 95	18,000	339 x 276 x 330	8.64
DO-201AD / DO-201AE	52	1,250	255 x 75 x 150	10,000	339 x 276 x 330	13.36
	52	750	255 x 75 x 95	9,000	339 x 276 x 330	11.62
P-600	52	400	255 x 75 x 150	3,200	339 x 276 x 330	8.1
DO-34	52	5,000	248 x 80 x 75	100,000	410 x 268 x 345	13.1
	26	5,000	248 x 80 x 48	150,000	410 x 268 x 345	15.3
DO-35	52	5,000	248 x 80 x 75	100,000	410 x 268 x 345	15.7
	26	5,000	248 x 80 x 48	150,000	410 x 268 x 345	17.5
DO-41G	52	2,500	248 x 80 x 75	50,000	410 x 268 x 345	16.4
	26	2,500	248 x 80 x 48	75,000	410 x 268 x 345	17.8