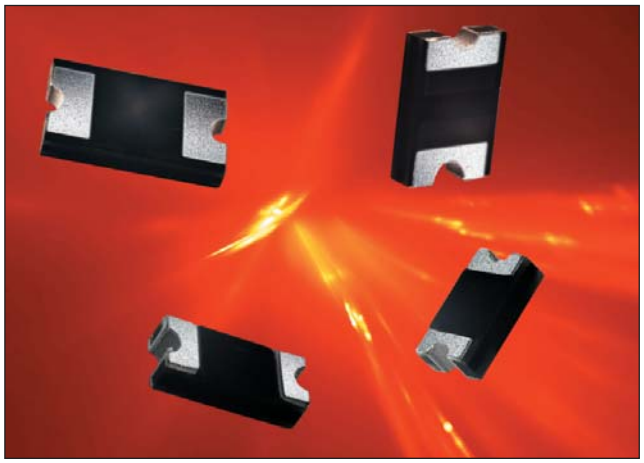
Schottky Barrier Rectifier Diode

Lead-less Chip Form

GENERAL DESCRIPTION

AVX Schottky rectifier diodes offer unique lead-less chip packaging technology which eliminates the lead frame wire bond to give the chip top-bottom symmetry for fewer mounting problems, better heat transfer, and current handling capability (compared to SOD devices).



FEATURES

- Lead-less chip form
- Low Vf
- High current capability
- Low power loss/high efficiency
- UL 94V-0 class package material
- Halogen free

APPLICATIONS

- Switch mode power supplies
- High frequency rectification
- Portable battery powered devices
- Reverse bias protection

MECHANICAL DATA

Case: FRP substrate with epoxy underfill

Terminations: 100% Sn plated (Pb-free), solderable per MIL-STD-750, Method 2026.

Operating Temperature: -55°C to 125°C

Storage Temperature: -55°C to 150°C

HOW TO ORDER

SD	3220	S	020	S	3R0
Series	**Size**	**Thickness**	**Voltage**	**Vf**	**Current**
Schottky Diodes	3220 2114 2010 1206 0805 0603	S = Standard T = Thin	020 = 20V 030 = 30V 040 = 40V 060 = 60V 100 = 100V 150 = 150V 200 = 200V	S = Standard L = Low	0R1 = 0.1 0R2 = 0.2 0R3 = 0.3 0R5 = 0.5 1R0 = 1.0

LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

AVX SCHOTTKY DIODE CURRENTS BY CASE SIZE

Size		Max Forward Current								
EIAJ	**JEDEC**	**.1A**	**.2A**	**.3A**	**.5A**	**1A**	**2A**	**3A**	**5A**	**8A**
0603	SOD-523	●	●	●						
0805	SOD-323	●	●	●	●	●				
1206	SOD-123				●	●	●	●		
2010	SMA (D0-214AC)					●	●	●	●	
2114	SMB (D0-214AA)							●	●	●
3220	SMC (D0-214AB)							●	●	

Schottky Barrier Rectifier Diode
Lead-less Chip Form

ELECTRICAL CHARACTERISTICS

AVX PN	Size	Max Reverse Voltage	Max Forward Current	Max Peak Forward Surge Current	Reverse Current I_{RRM}		Forward Voltage Vf			Rth JA	Rth JL	Cj	Marking
		V_{RRM}	I_F	I_{FSM}	Typ	Max	I_F	Min	Max				
		V	A	A	mA	mA	A	V	V	°C/W	°C/W	pF	
SD3220S020S3R0	3220	20	3	100	0.025	0.5	3	0.47	0.5	55	17	180	3220 20S3
SD3220S040S3R0	3220	40	3	100	0.025	0.5	3	0.47	0.5	55	17	180	3220 40S3
SD3220S060S3R0	3220	60	3	100	0.025	0.5	3	0.65	0.7	55	17	180	3220 60S3
SD3220S100S3R0	3220	100	3	100	0.025	0.5	3	0.78	0.85	55	17	180	3220 100S3
SD3220S020S5R0	3220	20	5	130	0.045	0.5	5	0.52	0.55	55	17	180	3220 20S5
SD3220S040S5R0	3220	40	5	130	0.045	0.5	5	0.52	0.55	55	17	180	3220 40S5
SD3220S060S5R0	3220	60	5	130	0.045	0.5	5	0.65	0.7	55	17	180	3220 60S5
SD3220S100S5R0	3220	100	5	130	0.045	0.5	5	0.79	0.85	55	17	180	3220 100S5
SD2114S020S3R0	2114	20	3	80	0.04	0.5	3	0.48	0.5	55	17	180	2114 20S3
SD2114S040S3R0	2114	40	3	80	0.04	0.5	3	0.48	0.5	55	17	180	2114 40S3
SD2114S060S3R0	2114	60	3	80	0.04	0.5	3	0.65	0.7	55	17	180	2114 60S3
SD2114S100S3R0	2114	100	3	80	0.04	0.5	3	0.78	0.85	55	17	180	2114 100S3
SD2114S020S5R0	2114	20	5	105	0.045	0.5	5	0.5	0.55	55	17	250	2114 20S5
SD2114S040S5R0	2114	40	5	105	0.045	0.5	5	0.5	0.55	55	17	250	2114 40S5
SD2114S060S5R0	2114	60	5	105	0.045	0.5	5	0.65	0.7	55	17	250	2114 60S5
SD2114S100S5R0	2114	100	5	105	0.045	0.5	5	0.79	0.85	55	17	250	2114 100S5
SD2114S040S8R0	2114	40	8	135	0.045	0.5	8	0.53	0.55	55	17	450	2114 40S8
SD2010S020S1R0	2010	20	1	30	0.02	0.2	1	0.47	0.5	88	28	110	10S 20 1
SD2010S040S1R0	2010	40	1	30	0.02	0.2	1	0.47	0.5	88	28	110	10S 40 1
SD2010S060S1R0	2010	60	1	30	0.02	0.2	1	0.6	0.7	88	28	110	10S 60 1
SD2010S100S1R0	2010	100	1	30	0.02	0.2	1	0.76	0.85	88	28	110	10S 100 1
SD2010S150S1R0	2010	150	1	30	0.001	0.05	1	0.83	0.88	88	28	110	10S 150 1S
SD2010S200S1R0	2010	200	1	30	0.001	0.05	1	0.86	0.9	88	28	110	10S 200 1
SD2010S020S2R0	2010	20	2	50	0.025	0.2	2	0.49	0.5	75	17	115	10S 20 2
SD2010S040S2R0	2010	40	2	50	0.025	0.2	2	0.49	0.5	75	17	115	10S 40 2
SD2010S060S2R0	2010	60	2	50	0.025	0.2	2	0.6	0.7	75	17	115	10S 60 2

Schottky Barrier Rectifier Diode

Lead-less Chip Form

AVX PN	Size	Max Reverse Voltage	Max Forward Current	Max Peak Forward Surge Current	Reverse Current I_{RRM}		Forward Voltage Vf			Rth JA	Rth JL	Cj	Marking
		V_{RRM}	I_F	I_{FSM}	Typ	Max	I_F	Min	Max				
		V	A	A	mA	mA	A	V	V	°C/W	°C/W	pF	
SD2010S100S2R0	2010	100	2	50	0.025	0.2	2	0.75	0.85	75	17	115	10S 100 2
SD2010S150S2R0	2010	150	2	50	0.001	0.2	2	0.83	0.88	88	28	110	10S 150 2
SD2010S200S2R0	2010	200	2	50	0.001	0.2	2	0.86	0.9	88	28	110	10S 200 2
SD2010S020S3R0	2010	20	3	80	0.02	0.2	3	0.46	0.5	86	24	120	10S 20 3
SD2010S040S3R0	2010	40	3	80	0.02	0.2	3	0.46	0.5	86	24	120	10S 40 3
SD2010S060S3R0	2010	60	3	80	0.02	0.2	3	0.58	0.7	86	24	120	10S 60 3
SD2010S100S3R0	2010	100	3	80	0.02	0.2	3	0.75	0.85	86	24	120	10S 100 3
SD2010S150S3R0	2010	150	3	80	0.001	0.05	3	0.83	0.88	88	28	110	10S 150 3
SD2010S200S3R0	2010	200	3	80	0.001	0.05	3	0.86	0.9	88	28	110	10S 200 3
SD2010S030S5R0	2010	30	5	80	–	0.2	3	0.42	0.44	55	17	210	10S 30 5
SD2010S020L1R0	2010	20	1	30	0.35	1	1	0.37	0.38	55	17	115	10L 20 1
SD2010S040L1R0	2010	40	1	30	0.35	1	1	0.37	0.38	55	17	115	10L 40 1
SD2010S020L2R0	2010	20	2	50	0.28	1	2	0.39	0.4	70	17	115	10L 20 2
SD2010S040L2R0	2010	40	2	50	0.28	1	2	0.39	0.4	70	17	115	10L 40 2
SD2010S020L3R0	2010	20	3	80	0.55	1	3	0.39	0.42	55	17	120	10L 20 3
SD2010S040L3R0	2010	40	3	80	0.55	1	3	0.39	0.42	55	17	120	10L 40 3
SD2010S030L3R0	2010	30	3	70	0.08	0.2	3	0.42	0.44	55	17	120	10L 30 3
SD1206S020S0R5	1206	20	0.5	15	0.01	0.05	0.5	0.4	0.42	88	28	120	B2 ·
SD1206S040S0R5	1206	40	0.5	15	0.01	0.05	0.5	0.45	0.48	88	28	120	B4 ·
SD1206S020S1R0	1206	20	1	20	0.015	0.2	1	0.46	0.5	88	28	110	A2 .
SD1206S040S1R0	1206	40	1	20	0.015	0.2	1	0.46	0.5	88	28	110	A4 .
SD1206S060S1R0	1206	60	1	20	0.015	0.2	1	0.62	0.7	88	28	110	A6 .
SD1206S100S1R0	1206	100	1	20	0.015	0.2	1	0.76	0.85	88	28	110	A10 .
SD1206S020S2R0	1206	20	2	40	0.03	0.2	2	0.47	0.5	75	17	115	L2 .
SD1206S040S2R0	1206	40	2	40	0.03	0.2	2	0.47	0.5	75	17	115	L4 .
SD1206S060S2R0	1206	60	2	40	0.03	0.2	2	0.58	0.7	75	17	115	L6 .
SD1206S100S2R0	1206	100	2	40	0.03	0.2	2	0.75	0.85	75	17	115	L10 .
SD1206S020L1R0	1206	20	1	25	0.3	1	1	0.37	0.38	88	28	115	A2L .
SD1206S040L1R0	1206	40	1	25	0.3	1	1	0.37	0.38	88	28	115	A4L .

Schottky Barrier Rectifier Diode

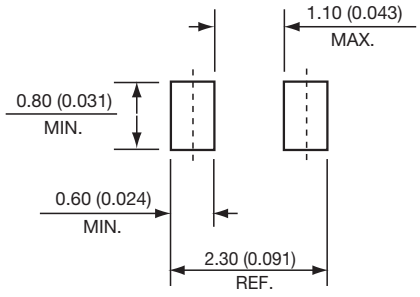
Lead-less Chip Form

AVX PN	Size	Max Reverse Voltage	Max Forward Current	Max Peak Forward Surge Current	Reverse Current I_{RRM}		Forward Voltage Vf			Rth JA	Rth JL	Cj	Marking
		V_{RRM}	I_F	I_{FSM}	Typ	Max	I_F	Min	Max				
		V	A	A	mA	mA	A	V	V	°C/W	°C/W	pF	
SD1206S020L2R0	1206	20	2	40	0.28	1	2	0.39	0.4	70	22	115	L2L .
SD1206S040L2R0	1206	40	2	40	0.28	1	2	0.39	0.4	70	22	115	L4L .
SD1206T020S0R5	1206	20	0.5	15	0.01	0.05	0.5	0.4	0.42	88	28	120	B2Ş
SD1206T040S0R5	1206	40	0.5	15	0.01	0.05	0.5	0.45	0.48	88	28	120	B4Ş
SD1206T060S0R5	1206	60	0.5	15	0.01	0.05	0.5	0.48	0.55	88	28	120	B6Ş
SD1206T020S1R0	1206	20	1	20	0.015	0.2	1	0.46	0.5	88	28	110	A2Ş
SD1206T040S1R0	1206	40	1	20	0.015	0.2	1	0.46	0.5	88	28	110	A4Ş
SD1206T060S1R0	1206	60	1	20	0.015	0.2	1	0.62	0.7	88	28	110	A6Ş
SD1206T100S1R0	1206	100	1	20	0.015	0.2	1	0.76	0.85	88	28	110	A10Ş
SD1206T020S2R0	1206	20	2	40	0.03	0.2	2	0.47	0.5	75	17	115	L2Ş
SD1206T040S2R0	1206	40	2	40	0.03	0.2	2	0.47	0.5	75	17	115	L4Ş
SD1206T060S2R0	1206	60	2	40	0.03	0.2	2	0.58	0.75	75	17	115	L6Ş
SD1206T100S2R0	1206	100	2	40	0.03	0.2	2	0.75	0.85	75	17	115	L10Ş
SD1206T040S3R0	1206	40	3	40	0.03	0.2	3	0.53	0.55	88	28	110	K4Ş
SD1206T060S3R0	1206	60	3	40	0.03	0.2	3	0.75	0.8	88	28	110	K6Ş
SD1206T020L1R0	1206	20	1	25	0.3	1	1	0.37	0.38	88	28	115	A2 LS.
SD1206T040L1R0	1206	40	1	25	0.3	1	1	0.37	0.38	88	28	115	A4 LS.
SD0805S020S0R1	805	20	0.1	2	0.004	0.03	0.1	0.38	0.45	160	110	18	F 2 .
SD0805S040S0R1	805	40	0.1	2	0.004	0.03	0.1	0.4	0.5	160	110	18	F 4 .
SD0805S020S0R2	805	20	0.2	2	0.008	0.05	0.2	0.42	0.45	160	110	15	D 2 .
SD0805S040S0R2	805	40	0.2	2	0.008	0.05	0.2	0.45	0.5	160	110	15	D 4 .
SD0805S020S0R3	805	20	0.3	2	0.008	0.05	0.3	0.47	0.5	160	110	30	C 2 .
SD0805S040S0R3	805	40	0.3	2	0.008	0.05	0.3	0.47	0.5	160	110	30	C 4 .
SD0805S020S0R5	805	20	0.5	5	0.015	0.1	0.5	0.4	0.44	120	28	28	B 2 .
SD0805S030S0R5	805	30	0.5	5	0.015	0.1	0.5	0.4	0.46	120	28	28	B 3 .
SD0805S040S0R5	805	40	0.5	5	0.015	0.1	0.5	0.4	0.48	120	28	28	B 4 .
SD0805S020S1R0	805	20	1	10	0.028	0.2	1	0.42	0.45	120	28	115	A 2 ·
SD0805S040S1R0	805	40	1	10	0.008	0.05	1	0.49	0.55	88	28	110	A 41 ·
SD0805S060S1R0	805	60	1	10	0.028	0.2	1	0.62	0.65	120	28	115	A 6 ·
SD0805S020L1R0	805	20	1	10	0.3	1	1	0.37	0.38	88	28	115	A 2L .
SD0805S040L1R0	805	40	1	10	0.3	1	1	0.37	0.38	88	28	115	A 4L .
SD0603S020S0R1	603	20	0.1	2	0.008	0.05	0.1	0.38	0.4	160	110	30	2F
SD0603S040S0R1	603	40	0.1	2	0.008	0.05	0.1	0.38	0.4	160	110	30	4F
SD0603S020S0R2	603	20	0.2	2	0.008	0.05	0.2	0.43	0.45	160	110	35	2D
SD0603S040S0R2	603	40	0.2	2	0.0005	0.001	0.2	0.43	0.45	160	110	35	4D
SD0603S020S0R3	603	20	0.3	2	0.008	0.05	0.3	0.47	0.5	160	110	35	2C
SD0603S040S0R3	603	40	0.3	2	0.008	0.05	0.3	0.47	0.5	160	110	35	4C

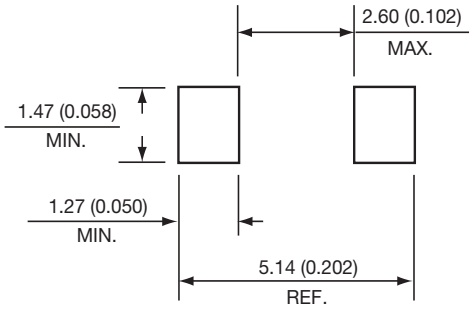
PAD LAYOUT

mm (inches)

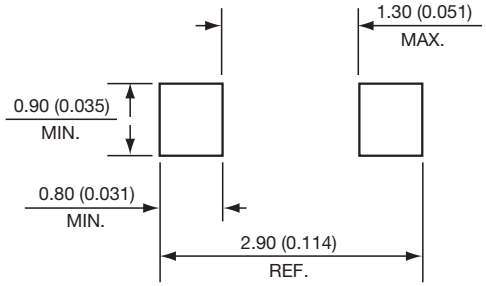
0603



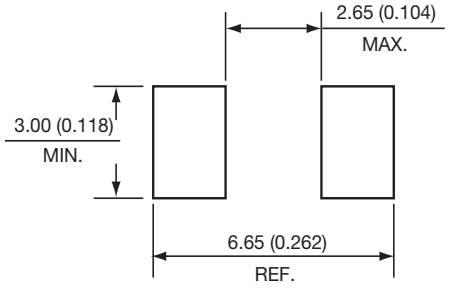
2010



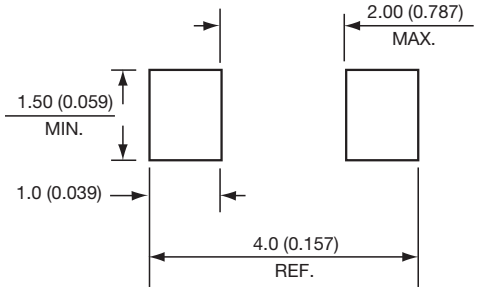
0805



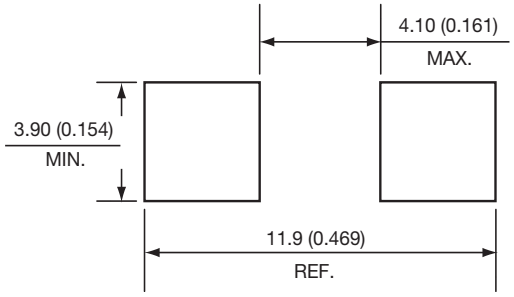
2114



1206
1206-T



3220

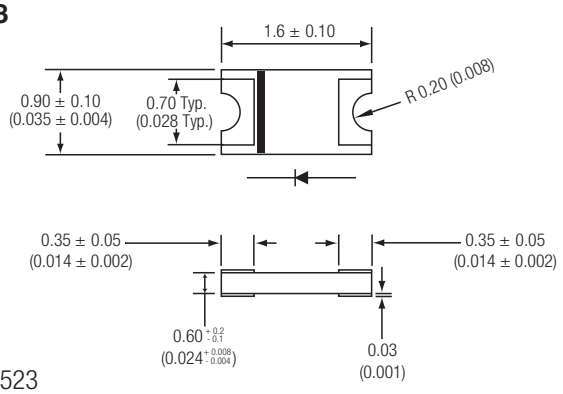


Schottky Barrier Rectifier Diode
Lead-less Chip Form

CASE DRAWINGS

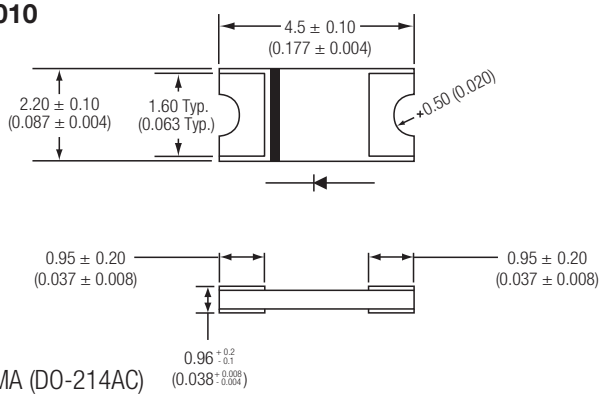
mm (inches)

0603



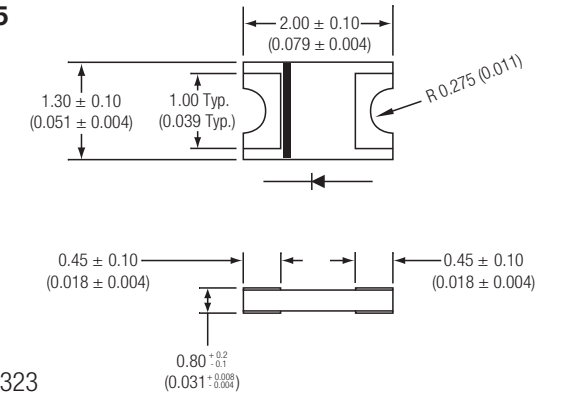
SOD-523

2010



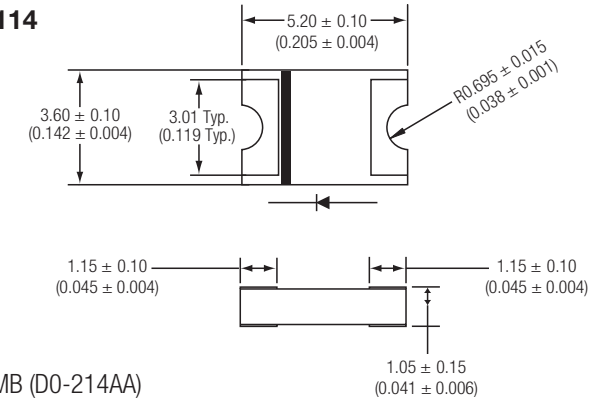
SMA (DO-214AC)

0805



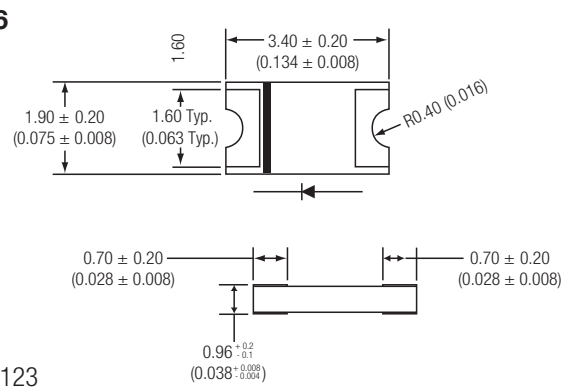
SOD-323

2114



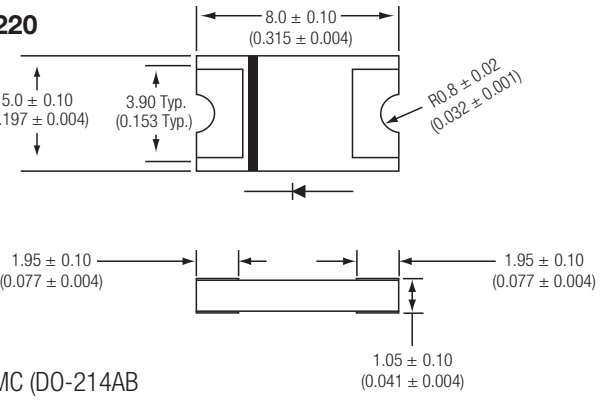
SMB (DO-214AA)

1206



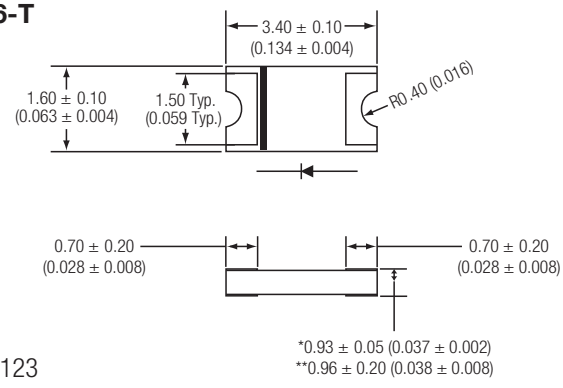
SOD-123

3220



SMC (DO-214AB

1206-T

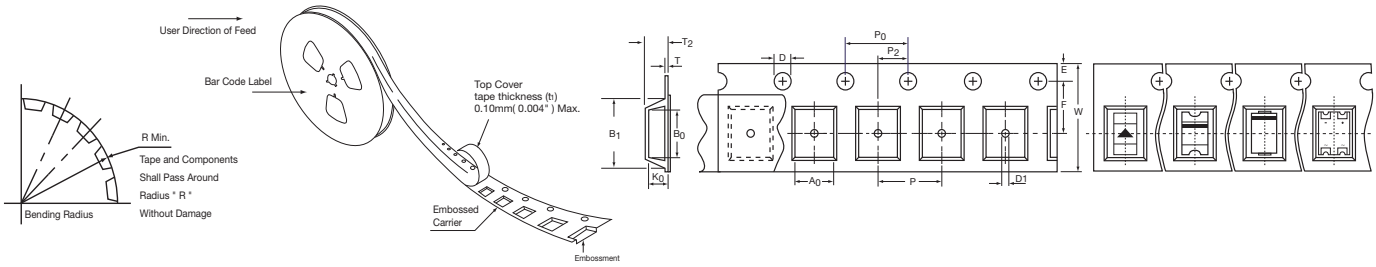


SOD-123

Polarity: Laser Cathode band marking.

Schottky Barrier Rectifier Diode
Lead-less Chip Form

CARRIER TAPE



EMBOSSED TAPE

mm (inches)

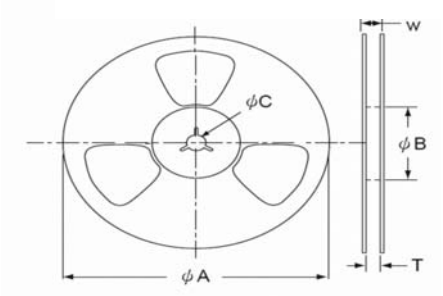
Tape Size	D	E	P_0	A_0	B_0	K_0	T max	P_2
8, 12 mm	1.50 ± 0.1 (0.059 ±0.004)	1.75 ± 0.1 (0.069 ± 0.004)	4.0 ± 0.1 (0.157 ± 0.004)	See Note 1			0.4 -0.016	2.0 ± 0.1 (0.079 ± 0.002)
16 mm	1.55 ± 0.05 (0.061 ±0.002)	1.75 ± 0.1 (0.069 ± 0.004)	4.0 ± 0.1 (0.157 ± 0.004)					

Product Size	Tape Size	B_1	D_1	F	P	W	T_2	R Min
0603	8mm	2.0 max (0.079 max)	0.80 ± 0.05 (0.031 ± 0.002)	3.50 ± 0.05 (0.138 ± 0.002)	4.00 ± 0.10 (0.157 ± 0.004)	8.00 ± 0.30 (0.315 ± 0.012)	1.00 ± 0.10 (0.039 ± 0.004)	25 -0.98
0805							1.22 ± 0.10 (0.048 ± 0.004)	
1206	12mm	8.2 max (0.323 max)	1.50 min. (0.059 min.)	5.50 ± 0.05 (0.217 ± 0.002)		12.00 ± 0.30 (0.472 ± 0.012)	1.75 ± 0.1 (0.069 ± 0.004)	30 -1.181
1206-S							1.40 ± 0.1 (0.055 ± 0.004)	
2010							1.51 ± 0.10 (0.059 ± 0.004)	
2114					8.00 ± 0.10 (0.315 ± 0.004)		1.65 ± 0.10 (0.065 ± 0.004)	
3220	16mm	12.1 max (0.476 max)		7.50 ± 0.10 (0.295 ± 0.004)		16.00 ± 0.30 (0.630 ± 0.012)	2.50 max (0.098 max)	40 -1.575

NOTES:
1. A_0, B_0, and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm (0.002") Min.to 0.50 mm (0.02") Max. for 8mm tape, and 0.15mm (0.066") Min. to 0.90 mm (0.035") Max. 12 mm tape.
2. All surface mount components are packed in accordance with EIA standard 481-1 and 481-2

REEL DIMENSIONS

mm (inches)



Symbol	Tape Size	φA	φB	φC	W	T
0603	8 -0.315	178 ± 2.0 (7.008 ± 0.079)	60 ± 0.5 (2.362 ± 0.020)	13.5 ± 0.5 (0.532 ± 0.020)	12.0 ± 0.5 (0.472 ± 0.020)	9.0 ± 0.5 (0.354 ± 0.020)
0805						
1206	12 -0.472	178 ± 2.0 (7.008 ± 0.079)	50 min (1.969 min)	13.0 ± 0.5 (0.512 ± 0.020)	18.7 max (0.736 max)	14.4 max (0.567 max)
1206-T						
2010						
2114		330 ± 2.0 (12.99 ± 0.079)				
3220	16 -0.63				22.7 max (0.893 max)	18.4 max (0.724 max)

QUANTITIES

Size	Reel Size	Qty/Reel
0603	7"	3,000
0805		
1206	7"	3,000
1206-T		
2010		
2114	13"	5,000
3220	13"	3,000