

MINIMUM PACKING QUANTITY					
PACKAGE TYPE	Bulk Type Quantity	7" Tape and Reel		13" Tape and Reel	
		Quantity	Part Number Suffix	Quantity	Part Number Suffix
DFN Series (Notes 4)	NA	3K	-7, -7R, TA	10K	-13
DFN0603	N/A	10K	-7, -7B	NA	NA
DFN0806	NA	10K	-7B	NA	NA
DFN0808	NA	5K	-7	NA	NA
DFN0910	NA	5K	-7	NA	NA
DFN1006	NA	3K	-7, -7R	10K	-13
		10K	-7B	NA	NA
DFN1010	NA	5K	-7	NA	NA
		10K	-7B	NA	NA
DFN1409, DFN1410	NA	5K	-7	NA	NA
DFN1410-4	NA	4K	-7	NA	NA
DFN1610-2 (Type B)	NA	10K	-7	NA	NA
DFN/QFN3030 (Note 5)	NA	3K	-7	3K	TC, -13
DFN3333-8	NA	2K	-7	3K	-13
DFN3030-8 Type K	NA	1.5K	-7A	NA	NA
DFN4030-12	NA	NA	NA	3K	-13
DFN4030-12 Type B, C, D	NA	NA	NA	4K	-13
QFN4040 (Note 6)	NA	1.5K*	-7*	4K	-13
		NA	NA	3K	TC
QFN4040-17	N/A	NA	NA	2.5K	-13
DFN5020	NA	3K	-7	NA	NA
DFN5060	NA	NA	NA	3K	-13
DF-S	50	NA	NA	1.5K	-T
D-FLAT	NA	NA	NA	10K	-13
D ² PAK	NA	NA	NA	800	-T
FLGA2520	NA	2.5K	-7	NA	NA
HDS	NA	NA	NA	3K	-13
MBS	NA	NA	NA	3K	-13
MELF	NA	NA	NA	5K	-13
MiniDIP	NA	NA	NA	3K	-T
MiniMELF	NA	2.5K	-7	10K	-13
MSB	NA	NA	NA	3K	-13
MSBL	NA	NA	NA	2.5K	-13
MSOP-8, MSOP-8EP	100	1K	TA	2.5K	-13
				4K	TC
MSOP-10	100	1K	TA	2.5K	-13
				4K	TC
POWERDI [®] 5 (Note 7)	NA	1.5K	-7	5K	-13
	NA	1.5K	-7D	5K	-13D
POWERDI [®] 5SP	NA	NA	NA	3.5K	-13, -13R
POWERDI [®] 5SP-B (Note 8)	NA	NA	NA	3K	-13, -13R
POWERDI [®] 123, POWERMITE [®] 3	NA	3K	-7	10K	-13
POWERDI [®] 3030	NA	3K	-7	NA	NA
POWERDI [®] 3333	NA	2K	-7	3K	-13
POWERDI [®] 3333-8 (Type D)	NA	1K	-7	3K	-13
POWERDI [®] 5060	NA	NA	NA	2.5K	-13
QSOP-16, QSOP20	NA	NA	NA	2.5K	TC
SC59	NA	3K	-7	10K	-13
SM-8	NA	1K	TA	4K	TC
SMA	NA	NA	NA	5K	-13

MINIMUM PACKING QUANTITY - Continued					
PACKAGE TYPE	Bulk Type Quantity	7" Tape and Reel		13" Tape and Reel	
		Quantity	Part Number Suffix	Quantity	Part Number Suffix
SMAF	NA	NA	NA	10K	-13
SMA-FS	NA	NA	NA	10K	-13
SMB	NA	NA	NA	3K	-13
SMC	NA	NA	NA	3K	-13
SOD123, SOD123F	NA	3K	-7	10K	-13, TC
SOD323, SOD523	NA	3K	-7, TA	10K	-13, TC
SOD923	NA	10K	-7	NA	NA
SO-8, SO-8EP	100	0.5K	TA	2.5K	-13, TC
SO-14	100	NA	NA	2.5K	-13
SO-16	50	NA	NA	2.5K	-13
SOPA-4	NA	NA	NA	5K	-13
SOT23	NA	3K	-7, TA	10K	-13
	NA	0.5K	TD	NA	NA
SOT323, SOT353	NA	3K	-7, TA	10K	-13, TC
SOT523, SOT666	NA	3K	-7, TA	10K	-13
SOT363	NA	3K	-7, -7R	10K	-13, -13R
SOT25, SOT26, SC74R	NA	3K	-7, TA	10K	-13, TC
SOT23F	NA	3K	TA, -7	10K	TC
SOT89	NA	1K	-7, TA, -7R	2.5K	-13
				4K	TC, -13R
SOT89-5	NA	NA	NA	2.5K	-13
SOT143	NA	3K	-7	10K	-13
SOT223	75	1K	TA	2.5K	-13
				4K	TC
SOT553 (Note 9)	NA	3K	-7	NA	NA
	NA	4K	-7	NA	NA
SOT563 (Note 9)	NA	3K	-7, -7A	10K	-13, -13A
	NA	4K	-7	NA	NA
	NA	8K	-7B	NA	NA
SOT953	NA	10K	-7,	NA	NA
SOT963	NA	10K	-7, -7A, -7B	NA	NA
T-MiniDIP	NA	NA	NA	5K	-13
TO252-3, TO252-4, TO252-5	80	NA	NA	2.5K	-13, TC
TO263AB, TO263-5	50	NA	NA	800	-13
TSSOP-8, TSSOP-14, TSSOP-16, TSSOP-16EP	96	NA	NA	2.5K	-13
TSOT25, TSOT26	NA	3K	-7, TA	10K	-13
		0.5K	TD	NA	NA
TT	NA	NA	NA	1.5K	-13
DSN/ESN/WLB Series (Note 11)	NA	3K	-7	NA	NA
		10K	-7B		
WLB1006	NA	5K	-7	NA	NA
WLB1406, WLB1608	NA	5K	-7	NA	NA

- Notes:
- Package quantities given are for minimum packaging quantity only, not minimum order quantity. For minimum order quantity, please contact Sales Department.
 - No mixed date codes or partial quantity (less than minimum packaging quantity) per packaging is allowed.
 - In no case shall there be two or more consecutive components missing from any reel for any reason.
 - Applies to all DFN/QFN body sizes unless otherwise specified in the table. 13" reel may not be available on all packages. Refer to datasheet for details.
 - DFN3030 / QFN3030 quantity of 3.0K on 13" i.e. TC and -13 options are customer specific requirements.
 - QFN4040-16 quantity of 1.5K on 7-inch reel is a specific customer requirement.
 - POWERDI⁵ available in 5K quantity on 13-inch reel & 12mm tape, part number suffix "-13D".
 - POWERDI⁵SP-B part number suffix "-13R" is supplied with device in flipped orientation i.e. marking code side down in the carrier tape pocket.
 - SOT553 / SOT563 quantity of 4K on 7-inch reel applicable for Logic products.
 - Packing quantities for DFN/QFN/WLB applicable regardless of package seated height (prefixed as V, W, U, X1, X2, etc).
 - Applies to all DSN/ESN/WLB body sizes unless otherwise specified in the table.

Device Tape Orientation For Part Marking, Refer to Datasheet

<u>8mm</u>			<u>8mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
X3-DFN0603-2 X2-DSN0603-2	-7	Bar Denotes Cathode Side 	X2-DFN0808-4 X2-DFN1010-6 X2-DFN0910-6 X2-DFN1212-6 U-DFN2018-6 X2-DFN3020-6	-7	
X3-DFN0603-2 X1-DFN1006-2 X2-DFN1006-2 X3-DSN1006-3 (Type B)	-7B				
X1-DFN1006-2 X2-DFN1006-2	-7	Dot Denotes Cathode Side 	X2-DFN1010-4 U-DFN1610-2 (Type B)	-7R -7B	
	-13	From date code 1527 (YYWW), this may change to: Bar Denotes Cathode Side 			
X2-DFN0606-3 X2-DFN0806-3 X1-DFN1006-3 X2-DFN1006-3	-7B	Bar Denotes Base & Emitter Side for BJT; Gate & Source Side for MOS and Cathode Side for Diodes 	X2-DFN1010-4 X2-DFN1210-6 X2-DFN1210-8 X2-DFN1409-6 X2-DFN1410-8 X2-DFN1410-6 X2-DFN1612-8 X2-DFN2010-8 U-DFN2020-6 Type B U-DFN2020-6 Type C U-DFN2020-6 Type S U-DFN2020-8 Type A U-DFN2030-8 U-DFN2116-8 V-DFN3020-14 U-DFN3030-8 Type E U-DFN3030-10 U-DFN3030-12 U-DFN3030-14 U-QFN3030-16 U-QFN3030-20	-7	
X1-DFN1006-3 X2-DFN1006-3	-7 -13	Dot Denotes Collector Side for BJT and Drain Side for MOS From date code 1527 (YYWW), this may change to: Bar Denotes Base & Emitter Side for BJT; Gate & Source Side for MOS and Cathode Side for Diodes 			
X1-DFN1006-3 X2-DFN1006-3	-7R	Bar Denotes Gate & Source Side for MOS 	U-DFN2020-6/SWP Type A Type B	-7	

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed

Device Tape Orientation For Part Marking, Refer to Datasheet

<u>8mm</u>			<u>8mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
W-DFN1114-3 X1-DFN1216-4 X2-DFN1410-4 X2-DFN2015-3 X2-DFN2015-6 W-FLGA2520-17	-7		U-DFN2020-3	-7	
X1-DFN1212-3 X1-DFN1212-3 Type B U-DFN1212-4	-7 -13		U-DFN2020-3 Type B	TA	
X2-DFN1310-6 X2-DFN1310-6 Type B	-7		U-DFN2030-6 Type B	-7 -13	
X1-DFN1411-3 U-DFN2020-3 U-DFN2020-6 Type E U-DFN2020-6 Type F X2-DFN2020-6 U-DFN2523-6 U-DFN2020-6/SWP	TA -7		X1-DFN2030-8	-7	
X1-DFN1616-6 Type E	-7		U-DFN2020-6 Type B U-DFN2020-6 Type C U-DFN3030-10	-7R	
U-DFN1610-6 U-DFN3020-8 Type M V-DFN3020-10 X2-DFN2015-8	-7 -13		U-DFN2510-10 X1-DFN3313-8	-7	
U-DFN1608-2	-7		U-DFN1616-6 Type F W-DFN3020-8 Type B	-7 TA	

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

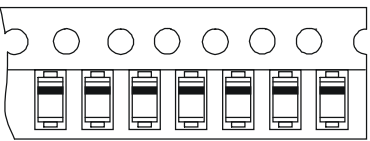
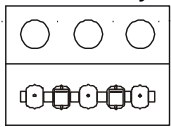
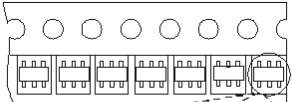


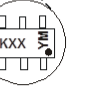
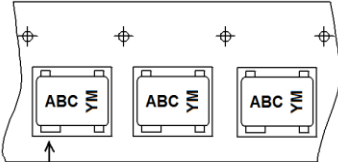
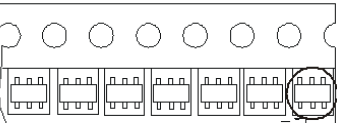
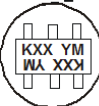
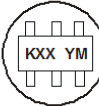
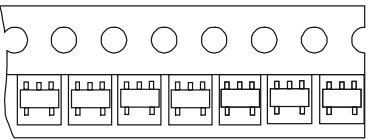
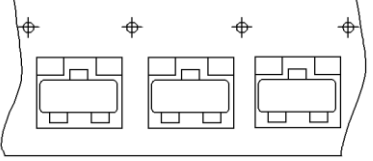
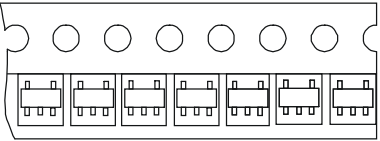
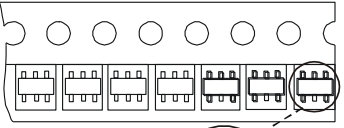

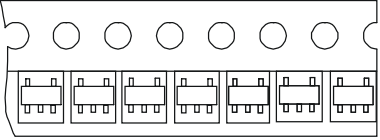
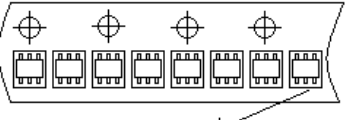

Direction of feed

Device Tape Orientation For Part Marking, Refer to Datasheet

<u>8mm</u>			<u>8mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
W-DFN3020-8 Type B	-7		U-DFN3030-8 U-DFN3030-8 Type B U-DFN3030-8 Type D V-DFN3030-8 Type R	-7	
W-QFN3020-12	-7R		U-DFN3030-10 <i>Note: Analogue Gate Drivers Only</i>	-7	
V-DFN3030-6	TC		U-QFN3030-16 Type B	TC	
V-DFN3020-8 Type K V-DFN3030-8	-7 TA		POWERDI [®] 123 POWERDI [®] 123 (Type B)	-7 -13	
			POWERDI [®] 323 SOD323F	-7	
W-DFN3020-12 W-QFN3020-12	-7		POWERDI [®] 3030-8 V-DFN3030-8 (Type H) V-DFN3030-8 (Type J) V-DFN3030-8 (Type K) V-DFN3030-8 (Type M) V-DFN3030-12 (Type B)	-7	
U-DFN3030-4	-7		SC59 SOT23 SOT523 SOT23F	-7 TA TD -13	

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
 b) Tape and package drawings are not to scale and are shown for device tape orientation only.

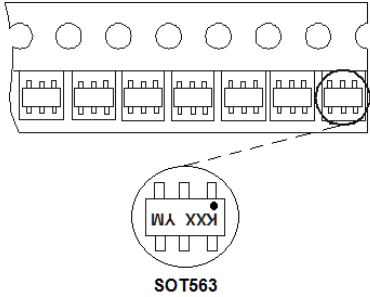
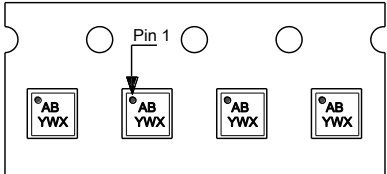
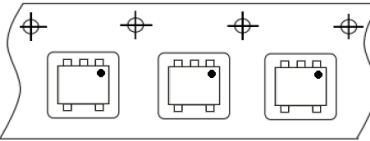
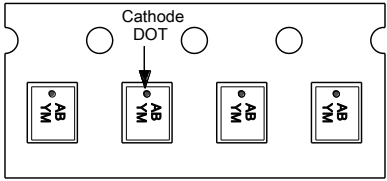
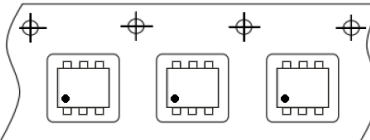
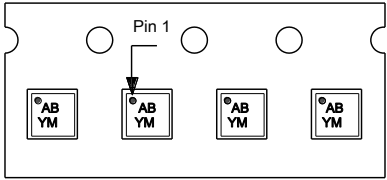
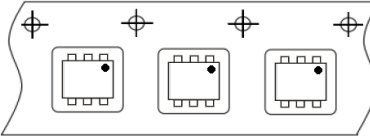
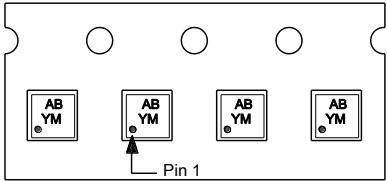
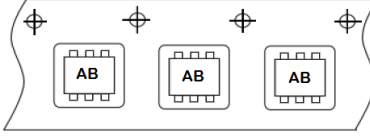
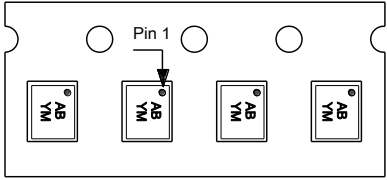
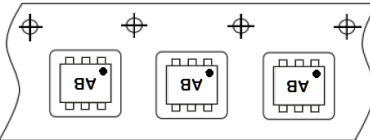
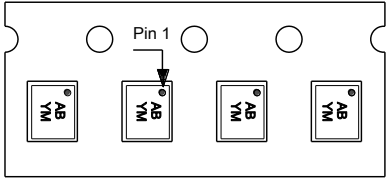
Direction of feed

<u>8mm</u>			<u>8mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
SOD123 SOD123F SOD323 SOD523* SOD923	-7 -13 TA TC	 <p>* SOD-523 only</p>  <p>Part number suffix -7 (3k quantity)</p>	SC74R SOT26 SOT363 SOT563 SOT666 TSOT26 (Asymmetrical)	-7 -13 TA TC	    <p>SOT563/SOT666 SOT26/SOT363/ TSOT26 SC-74R</p>
SOT143	-7 -13	 <p>Wide Pin</p>	SOT26 SOT363 SOT563 TSOT26 (Symmetrical)	-7 -13	   <p>SOT26/SOT363/TSOT26 SOT563</p>
SOT25 SOT353 SOT553	-7 -13 TA		SOT323	-7 -13 TA TC	
SOT25 SOT353 TSOT25 <i>Note: Analogue Only</i>	-7 TA		SOT363	-7R -13R	  <p>SOT-363</p>
SOT25 SOT353 SOT553 <i>Note: Logic Only</i>	-7		SOT563	-7B	 

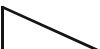
Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed 

**Device Tape Orientation
For Part Marking, Refer to Datasheet**

8mm			8mm		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
SOT563 (Symmetrical)	-7A -13A		U-WLB0707-4 U-WLB0808-4 W-WLB0808-4	-7	
SOT953	-7		X3-WLB1006-2 X3-WLB1406-2	-7	
SOT963 (Asymmetrical)	-7		X3-WLB1608-2 X2-WLB2010-2	-7 -7B	
SOT963 (Asymmetrical)	-7B		X3-DSN1010-3 U-WLB1010-4 U-WLB1515-9	-7	
SOT963 (Symmetrical)	-7		U-WLB1510-6 X1-WLB1818-4	-7	
SOT963 (Symmetrical)	-7A		U-WLB1510-6	-7R	

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed 

Device Tape Orientation For Part Marking, Refer to Datasheet

<u>12mm</u>			<u>12mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
V-DFN3030-8 Type R	-13		W-DFN5020-6	-13	
U-DFN4030-12 U-DFN4030-14 U-QFN4040-16	-13		W-DFN5060-4	-13	
U-DFN4030-12 Type B U-DFN4030-12 Type C U-DFN4030-12 Type D	-13		HDS	-13	
U-DFN4040-8 V-QFN4525-20	-13		MBS	-13	
U-QFN4040-16 Type B U-QFN4040-20 Type B	TC		MELF	-7	
V-QFN4040-17	-13			-13	
U-QFN4040-16 Type C	-13		MiniDIP T-MiniDIP	-T -13	
V-DFN3030-8 Type K	-7A		MSB	-13	
V-DFN3333-8 Type B	-7 -13			-13	

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed

**Device Tape Orientation
For Part Marking, Refer to Datasheet**

<u>12mm</u>			<u>12mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
MSOP-8 MSOP-8-EP MSOP-10	-13 TA TC		SMAF SMA-FS D-FLAT	-13	
POWERDI®3333-8	-7 -13		SMB	-13	
POWERDI®5	-7D -13D		SO-8 SO-8EP	-13 TA TC	
POWERDI®5060-8	-13		SOT89-3	-7 -13	
QSOP-16	TC		SOT89-3	-7R -13R	
SM-8	TA		SOT89-3	TA TC	
SMA	-13		SOT89-5	-13	

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed

**Device Tape Orientation
For Part Marking, Refer to Datasheet**

<u>12mm</u>			<u>12mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
SOT89-5 (Reverse)	-13		—	—	—
SOT223	-13 TA TC		—	—	—
SOPA-4 SOPA-4 Type B	-13		—	—	—
TSSOP-8	-13		—	—	—
TSSOP-14 TSSOP-16 TSSOP-16EP	-13		—	—	—
—	—	—	—	—	—

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed

**Device Tape Orientation
For Part Marking, Refer to Datasheet**

<u>16mm</u>			<u>16mm</u>		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
DF-S	-T		SO-14	-13	
MSBL	-13		SO-16	-13	
SMC	-13		QSOP-20	TC	
POWERDI® 5	-7 -13		TSSOP-16EP	TC	
POWERMITE® 3	-7 -13		TSSOP-20EP	TC	
TO252 (DPAK)	-13 TC		TT	-13	
TO252-4 TO252-5	-13		—	—	—

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed

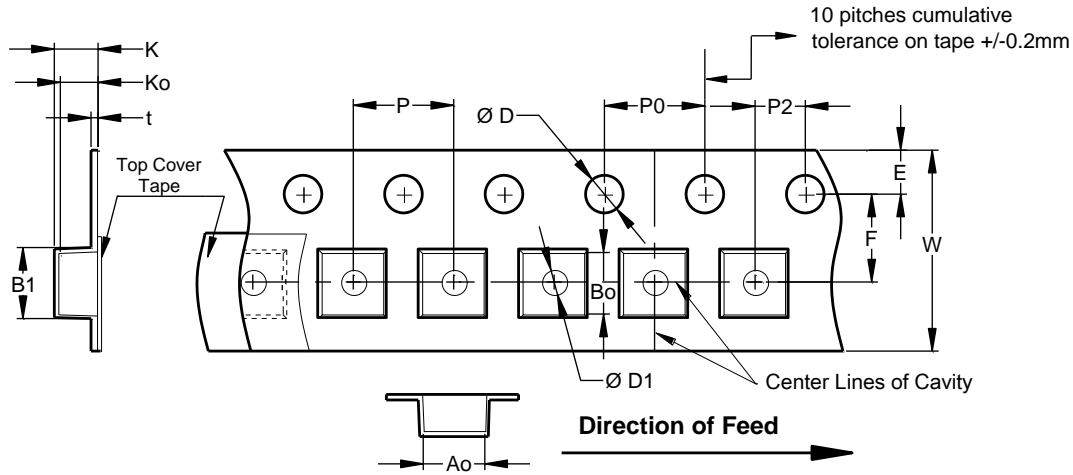
**Device Tape Orientation
For Part Marking, Refer to Datasheet**

24mm			40.4mm		
Package	Suffix	Tape Orientation	Package	Suffix	Tape Orientation
D2PAK	-T				
TO263AB	-13		POWERDI 5SP POWERDI 5SP-B	-13	
—	—	—			
—	—	—			
—	—	—	POWERDI 5SP-B	-13R	
—	—	—			

Note: a) Device tape orientation applicable to all product types unless otherwise specified.
b) Tape and package drawings are not to scale and are shown for device tape orientation only.

Direction of feed

EMBOSED CARRIER TAPE SPECIFICATIONS



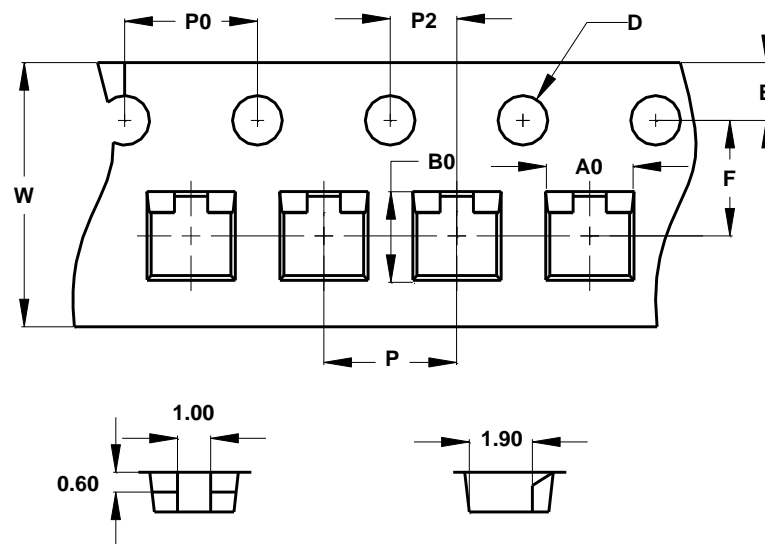
8, 12, 16, 24mm EMBOSED TAPE DIMENSIONS IN mm						
Tape Width	D	E	P ₀	t _{max}	A ₀ B ₀ K ₀	Constant Dimensions
8, 12, 16, 24mm	1.50 +0.10 -0.0	1.75 ± 0.10	4.0 ± 0.10	0.400	See Note 1	

Tape Width	B1 max	D1 min	F	K max	P2	R min (Note 4)	W	Package Type
8mm	4.5	1.0 (Note 2) 0.35 (Note 3)	3.5 ± 0.05	2.4	2.0 ± 0.05	25	8.0 ± 0.30	Refer to 8mm Device Tape Orientation Table
12mm	8.2	1.5	5.5 ± 0.05	4.5	2.0 ± 0.05	30	12.0 ± 0.30	Refer to 12mm Device Tape Orientation Table
16mm	12.1	1.4	7.5 ± 0.10	2.25	2.0 ± 0.10	40	16.0 ± 0.30	Refer to 16mm Device Tape Orientation Table
		1.5	7.5 ± 0.10	3.29	2.0 ± 0.10		16.0 ± 0.30	
		1.5	7.5 ± 0.10	3.70	2.0 ± 0.10		16.0 ± 0.30	
		1.5	7.5 ± 0.05	2.89	2.0 ± 0.05		16.0 ± 0.2	
24mm	20.1	1.5	11.5 ± 0.10	6.5	2.0 ± 0.10	50	24.0 ± 0.30	Refer to 24mm Device Tape Orientation Table

P					
Tape Width	2.0 ± 0.05	4.0 ± 0.10	8.0 ± 0.10	12.0 ± 0.10	16.0 ± 0.10
8mm	SOT563 (-7B) SOT953, SOT963, SOD923 DFN0603, DFN0606, DFN0808 DFN1006 (-7B) DFN1010 (-7B), DFN1610-2 (Type B) (-7) WLB0808 (-7B) WLB0603, WLB1006, WLB1406 WLB1608 (-7B)	All other packages using 8mm tape in the Device Orientation tables	—	—	—
12mm	—	SMA, SMAF, MELF, DFN5020, DFLAT, SMA-FS	All other packages using 12mm tape in the Device Orientation tables	—	—
16mm	—	—	All packages using 16mm tape except DF-S	DF-S	—
24mm	—	—	—	—	D ² PAK; TO263AB
40.40mm	—	—	—	POWERDI [®] 5SP POWERDI [®] 5SP-B	—

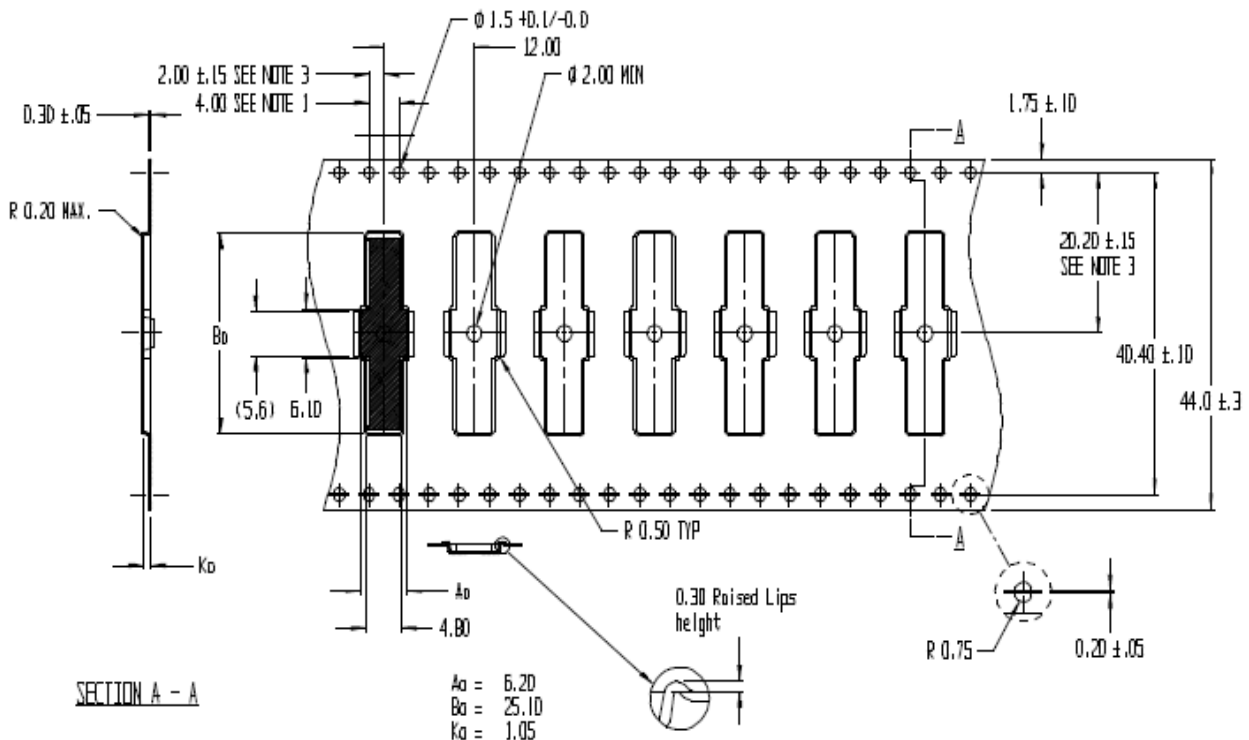
- Notes: 1. A₀ B₀ K₀ are determined by component size. The clearance between the component and the cavity must comply to the rotational and lateral movement requirement provided in figures on page 15.
 2. Applies to components 2.0mm x 1.2mm or larger.
 3. Applies to components smaller than 2.0mm x 1.2mm.
 4. Bending Radius, refer to page 17.

Carrier Tape Specification for SOT323

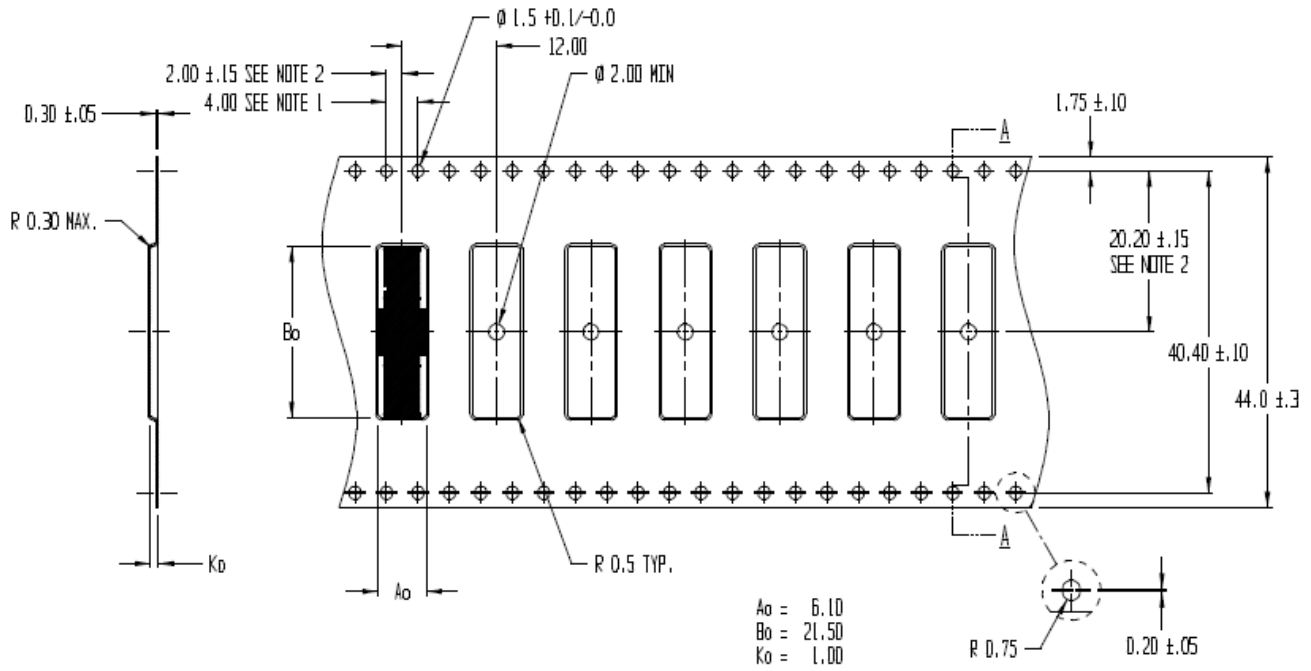


Note: P, P0, P2, D, E, F and W dimensions are the same as provided in the EMBOSSED CARRIER TAPE DIMENSIONS table.

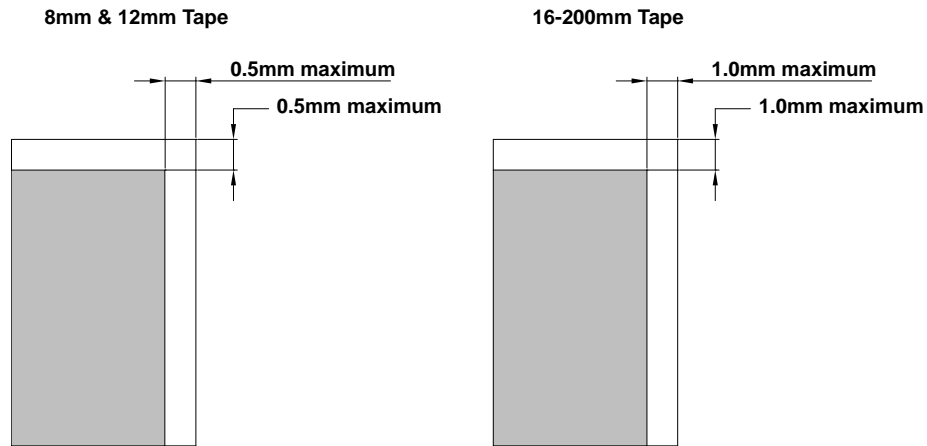
Carrier Tape Specification for POWERDI[®]5SP



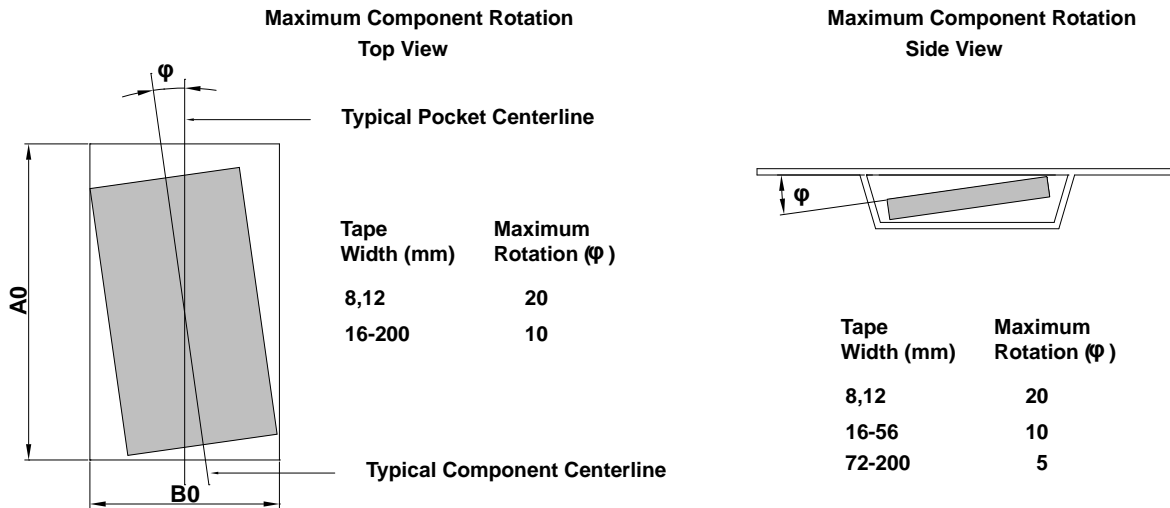
Carrier Tape Specification for POWERDI[®]5SP-B

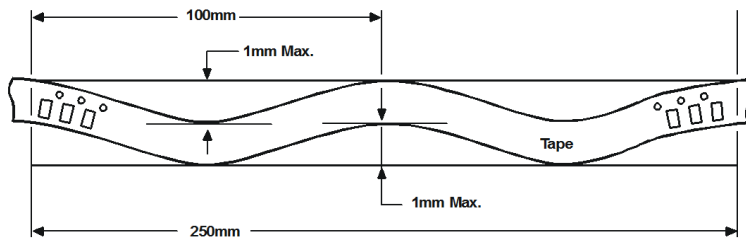
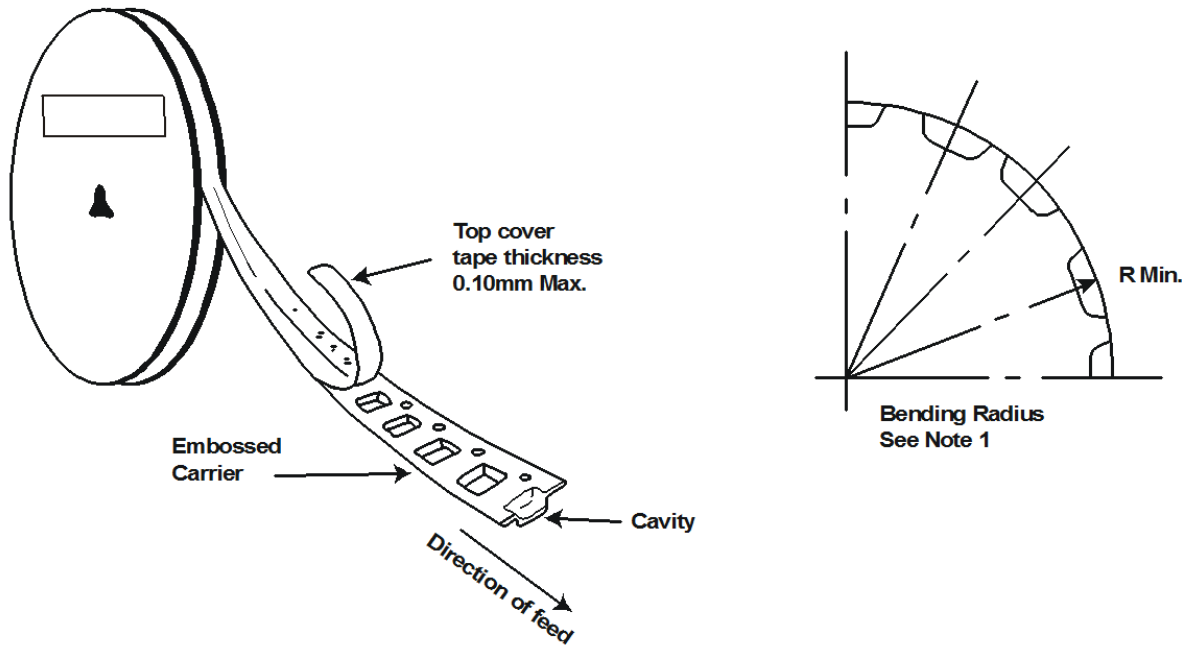


Component Lateral Movement



Component Rotational Movement

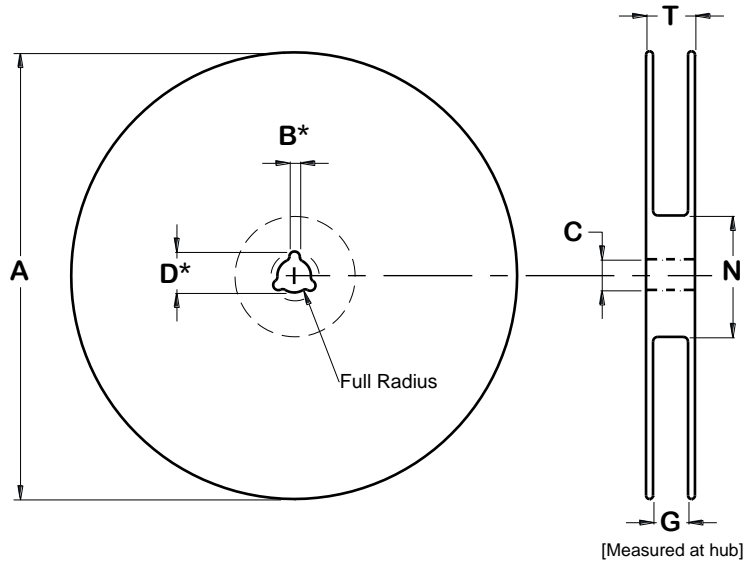




Allowable camber to be 1.0mm/100mm non-accumulative over

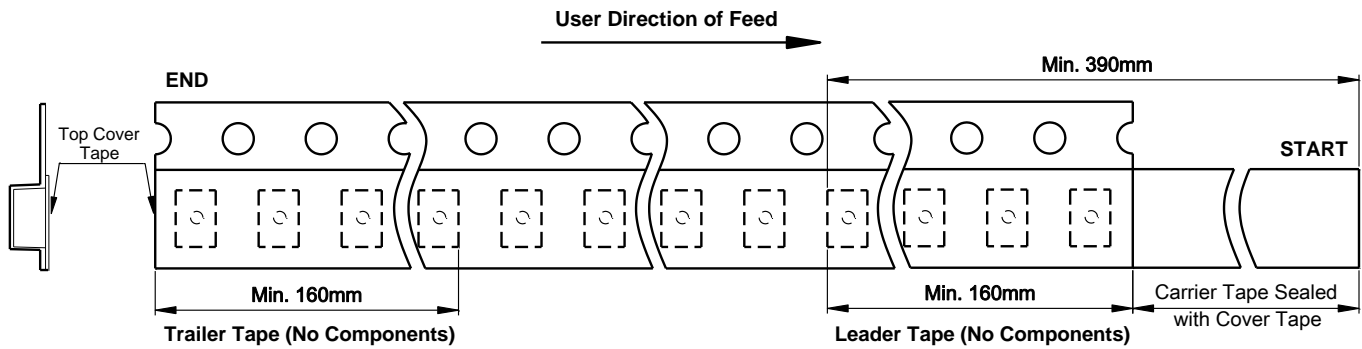
Notes: 1. Tape and components shall pass around radius 'R' without damage.

SURFACE MOUNT REEL SPECIFICATIONS
(All Dimensions in mm)



Tape Size	A Max	B* Max	C	D* Max	N Min	G	T Max
8mm	330 ±2	2.0 +0.5 -0	13 +0.5 -0.2	20.5 ±0.2	100 ±2	8.4 +1.5 -0.0	14.4
	178 ±2	2.0 +0.5 -0	13 +0.5 -0.2	20.5 ±0.2	55 ±5	8.4 +1.5 -0.0	14.4
12mm	330 ±2	2.0 +0.5 -0	13 +0.5 -0.2	20.5 ±0.2	100 ±2	12.4 +2.0 -0.0	18.4
	178 ±2	2.0 +0.5 -0	13 +0.5 -0.2	20.5 ±0.2	55 ±5	12.4 +2.0 -0.0	18.4
16mm	330 ±2	2.0 +0.5 -0	13 +0.5 -0.2	20.5 ±0.2	100 ±2	16.4 +2.0 -0.0	22.4
24mm	330 ±2	2.0 +0.5 -0	13 +0.5 -0.2	20.5 ±0.2	100 ±2	24.4 +2.0 -0.0	30.4

Tape Leader and Trailer



- Notes:
1. There shall be a leader of 230mm [9.05 inches] minimum which may consist of carrier and/or cover tape or a start tape followed by a minimum of 160mm [6.30 inches] of empty carrier tape sealed with cover tape.
 2. There shall be a trailer of 160mm [6.30 inches] minimum of empty carrier tape sealed with cover tape. The entire carrier tape must release from the reel hub as the last portion of the tape unwinds from the reel without damage to the carrier tape and the remaining components in the cavities.

POWERDI is a registered trademark of Diodes Incorporated