





















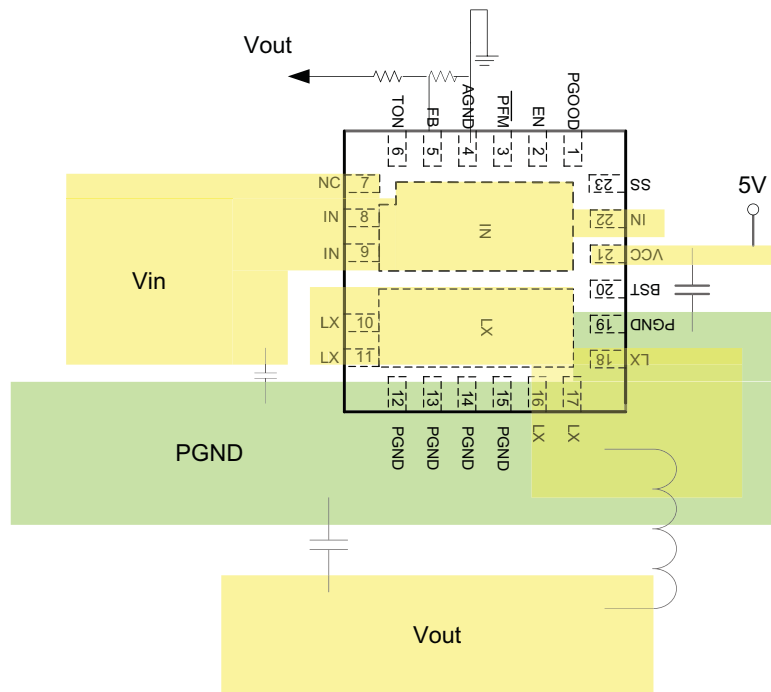




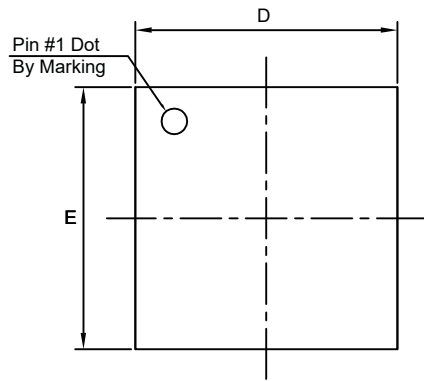
## Layout Considerations

Several layout tips are listed below for the best electric and thermal performance.

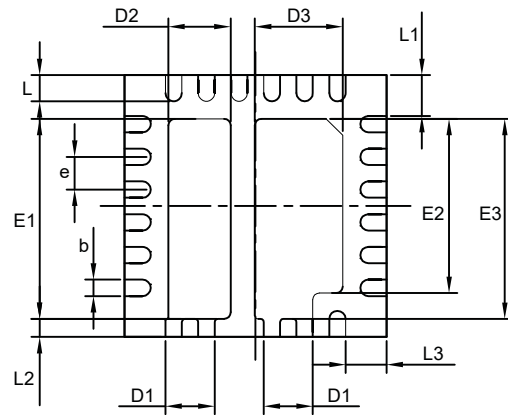
1. The LX pins and pad are connected to internal low side switch drain. They are low resistance thermal conduction path and most noisy switching node. Connect a large copper plane to LX pin to help thermal dissipation.
2. The IN pins and pad are connected to internal high side switch drain. They are also low resistance thermal conduction path. Connect a large copper plane to IN pins to help thermal dissipation.
3. Input capacitors should be connected to the IN pin and the PGND pin as close as possible to reduce the switching spikes.
4. Decoupling capacitor  $C_{VCC}$  should be connected to VCC and AGND as close as possible.
5. Voltage divider R1 and R2 should be placed as close as possible to FB and AGND.
6.  $R_{TON}$  should be put on PCB reverse side of feedback network or away from FB pin and FB feedback resistors to avoid unwanted touch to short Ton pin and FB together to ground to cause improperly operation.
7. A ground plane is preferred; Pin 19 (PGND) must be connected to the ground plane through via.
8. Keep sensitive signal traces such as feedback trace far away from the LX pins.
9. Pour copper plane on all unused board area and connect it to stable DC nodes, like VIN, GND or VOUT.



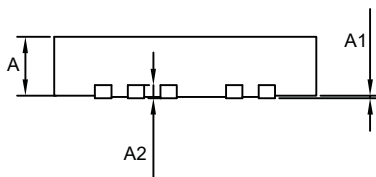
Package Dimensions, QFN 4x4, 23 Lead EP2\_S



TOP VIEW

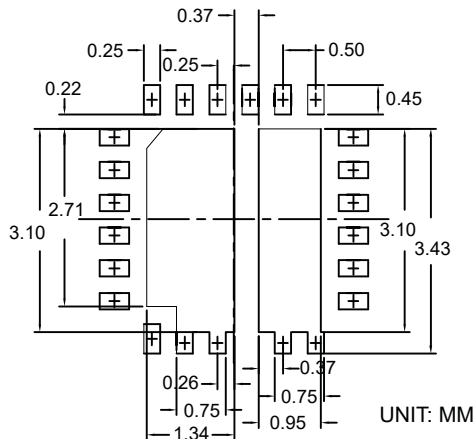


BOTTOM VIEW



SIDE VIEW

RECOMMENDED LAND PATTERN



Dimensions in millimeters

Symbols	Min.	Typ.	Max.
A	0.80	0.90	1.00
A1	0.00	—	0.05
A2	0.2 REF		
E	3.90	4.00	4.10
E1	2.95	3.05	3.15
E2	2.56	2.66	2.76
E3	2.95	3.05	3.15
D	3.90	4.00	4.10
D1	0.65	0.75	0.85
D2	0.85	0.95	1.05
D3	1.24	1.34	1.44
L	0.35	0.40	0.45
L1	0.57	0.62	0.67
L2	0.23	0.28	0.33
L3	0.57	0.62	0.67
b	0.20	0.25	0.30
e	0.50 BSC		

Dimensions in inches

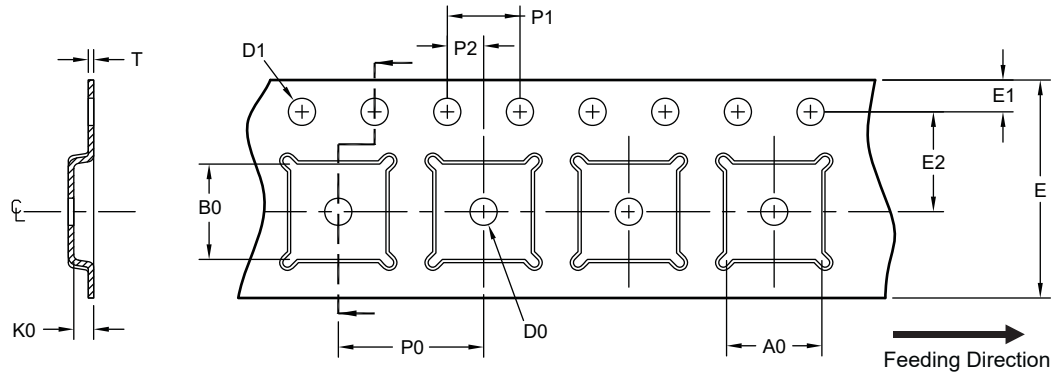
Symbols	Min.	Typ.	Max.
A	0.031	0.035	0.039
A1	0.000	—	0.002
A2	0.008 REF		
E	0.154	0.157	0.141
E1	0.116	0.120	0.124
E2	0.101	0.105	0.109
E3	0.116	0.120	0.124
D	0.154	0.157	0.141
D1	0.026	0.030	0.033
D2	0.033	0.037	0.041
D3	0.049	0.053	0.057
L	0.014	0.016	0.018
L1	0.022	0.024	0.026
L2	0.009	0.011	0.013
L3	0.022	0.024	0.026
b	0.008	0.010	0.012
e	0.020 BSC		

Notes:

1. Controlling dimensions are in millimeters. Converted inch dimensions are not necessarily exact.
2. Tolerance:  $\pm 0.05$  unless otherwise specified.
3. Radius on all corners is 0.152 max., unless otherwise specified.
4. Package wrapage: 0.012 max.
5. No plastic flash allowed on the top and bottom lead surface.
6. Pad planarity:  $\pm 0.102$
7. Crack between plastic body and lead is not allowed.

### Tape and Reel Dimensions, QFN 4x4, 23 Lead EP2\_S

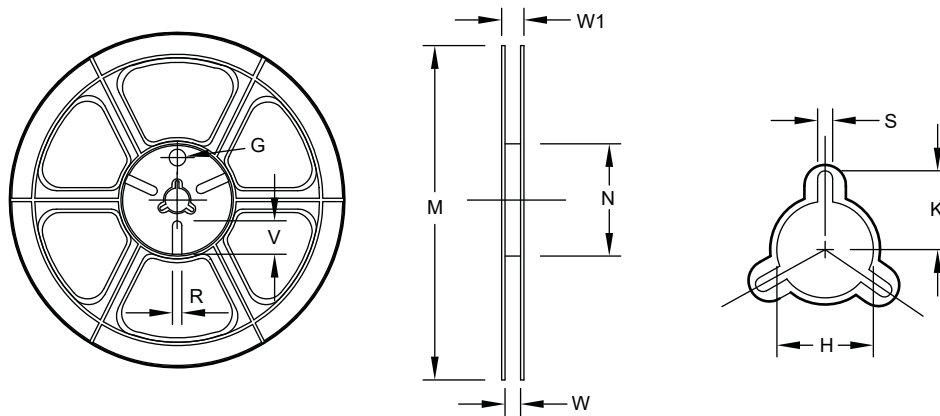
#### Carrier Tape



UNIT: mm

Package	A0	B0	K0	D0	D1	E	E1	E2	P0	P1	P2	T
QFN 4x4 (12mm)	4.35 ±0.10	4.35 ±0.10	1.10 ±0.10	1.50 Min.	1.50 +0.10/-0	12.00 ±0.30	1.75 ±0.10	5.50 ±0.05	8.00 ±0.10	4.00 ±0.10	2.00 ±0.05	0.30 ±0.05

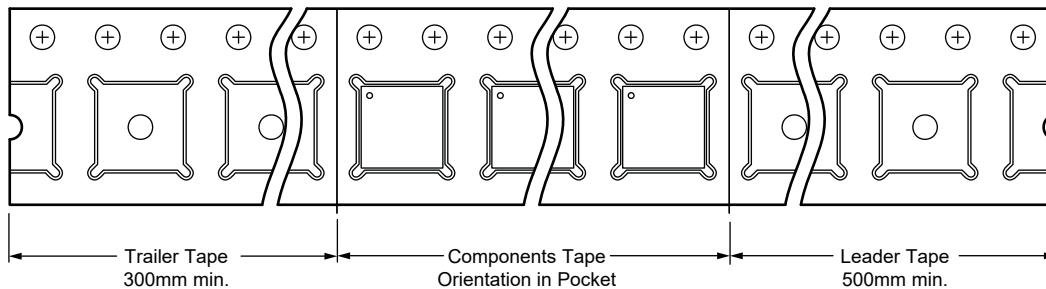
#### Reel



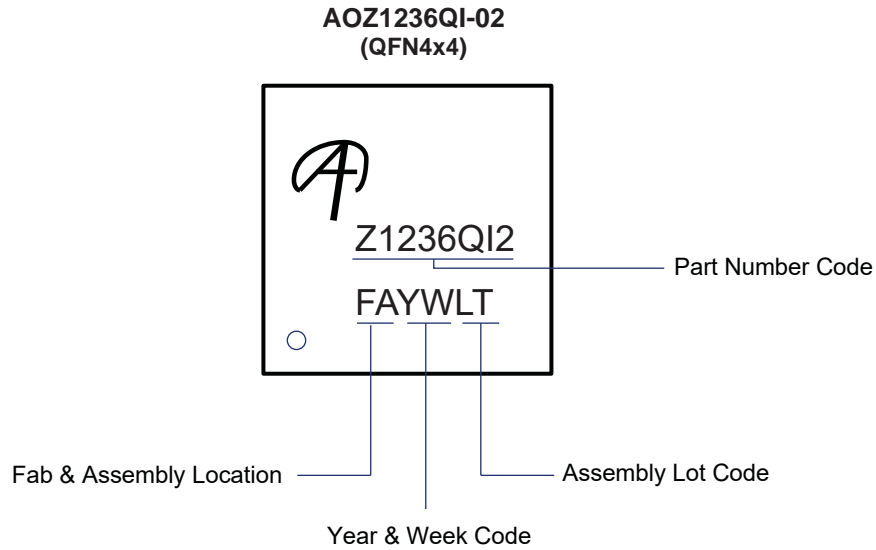
UNIT: mm

Tape Size	Reel Size	M	N	W	W1	H	K	S	G	R	V
12mm	ø330	ø330.0 ±2.0	ø79.0 ±1.0	12.4 +2.0/-0.0	17.0 +2.6/-1.2	ø13.0 ±0.5	10.5 ±0.2	2.0 ±0.5	—	—	—

#### Leader/Trailer and Orientation



**Part Marking**



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- |   |   |
|---|---|
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