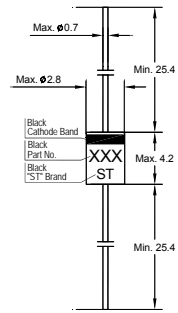


P...FB Series

Silicon Epitaxial Planar Zener Diodes

Applications

- Circuits for constant voltage, constant current, wave form clipper, surge absorber, etc.



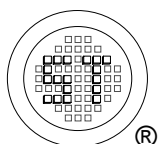
Glass Case DO-41
Dimensions in mm

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---------------------------|------------------|---------------|------------------|
| Power Dissipation | P_{tot} | 1 | W |
| Forward Current | I_F | 200 | mA |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 65 to + 175 | $^\circ\text{C}$ |

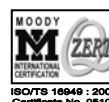
Characteristics at $T_a = 25^\circ\text{C}$ ($V_F = 1.2\text{ V Max. at } I_F = 200\text{ mA}$)

| Type | Zener Voltage ¹⁾ | | | Dynamic Impedance | | Reverse Current | |
|---------|-----------------------------|----------|-------------|-------------------|-------------|------------------------|----------|
| | V_Z | | at I_{ZT} | Z_{ZT} | at I_{ZT} | I_R | at V_R |
| | Min. (V) | Max. (V) | (mA) | Max. (Ω) | (mA) | Max. (μA) | (V) |
| P2V0FB | 1.88 | 2.25 | 40 | 25 | 40 | 200 | 0.5 |
| P2V0FB1 | 1.88 | 2.12 | | | | | |
| P2V0FB2 | 2.01 | 2.25 | | | | | |
| P2V2FB | 2.11 | 2.45 | 40 | 20 | 40 | 200 | 0.7 |
| P2V2FB1 | 2.11 | 2.34 | | | | | |
| P2V2FB2 | 2.21 | 2.45 | | | | | |
| P2V4FB | 2.31 | 2.65 | 40 | 15 | 40 | 200 | 1 |
| P2V4FB1 | 2.31 | 2.55 | | | | | |
| P2V4FB2 | 2.41 | 2.65 | | | | | |
| P2V7FB | 2.52 | 2.93 | 40 | 15 | 40 | 150 | 1 |
| P2V7FB1 | 2.52 | 2.78 | | | | | |
| P2V7FB2 | 2.68 | 2.93 | | | | | |
| P3V0FB | 2.83 | 3.22 | 40 | 15 | 40 | 100 | 1 |
| P3V0FB1 | 2.83 | 3.07 | | | | | |
| P3V0FB2 | 2.97 | 3.22 | | | | | |
| P3V3FB | 3.13 | 3.51 | 40 | 15 | 40 | 80 | 1 |
| P3V3FB1 | 3.13 | 3.37 | | | | | |
| P3V3FB2 | 3.27 | 3.51 | | | | | |
| P3V6FB | 3.43 | 3.83 | 40 | 15 | 40 | 60 | 1 |
| P3V6FB1 | 3.43 | 3.68 | | | | | |
| P3V6FB2 | 3.58 | 3.83 | | | | | |
| P3V9FB | 3.73 | 4.15 | 40 | 15 | 40 | 40 | 1 |
| P3V9FB1 | 3.73 | 4 | | | | | |
| P3V9FB2 | 3.88 | 4.15 | | | | | |
| P4V3FB | 4.03 | 4.55 | 40 | 15 | 40 | 20 | 1 |
| P4V3FB1 | 4.03 | 4.28 | | | | | |
| P4V3FB2 | 4.15 | 4.41 | | | | | |
| P4V3FB3 | 4.28 | 4.55 | | | | | |



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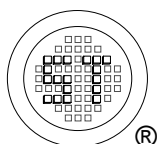
(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



P...FB Series

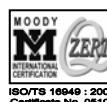
Characteristics at T_a = 25 °C

| Type | Zener Voltage ¹⁾ | | | Dynamic Impedance | | Reverse Current | |
|---------|-----------------------------|----------|--------------------|-------------------|--------------------|-----------------|-------------------|
| | V _Z | | at I _{ZT} | Z _{ZT} | at I _{ZT} | I _R | at V _R |
| | Min. (V) | Max. (V) | (mA) | Max. (Ω) | (mA) | Max. (μA) | (V) |
| P4V7FB | 4.41 | 4.91 | 40 | 10 | 40 | 20 | 1 |
| P4V7FB1 | 4.41 | 4.65 | | | | | |
| P4V7FB2 | 4.53 | 4.78 | | | | | |
| P4V7FB3 | 4.66 | 4.91 | | | | | |
| P5V1FB | 4.79 | 5.38 | 40 | 8 | 40 | 20 | 1 |
| P5V1FB1 | 4.79 | 5.05 | | | | | |
| P5V1FB2 | 4.95 | 5.22 | | | | | |
| P5V1FB3 | 5.1 | 5.38 | | | | | |
| P5V6FB | 5.28 | 5.95 | 40 | 8 | 40 | 20 | 1.5 |
| P5V6FB1 | 5.28 | 5.56 | | | | | |
| P5V6FB2 | 5.46 | 5.75 | | | | | |
| P5V6FB3 | 5.65 | 5.95 | | | | | |
| P6V2FB | 5.76 | 6.52 | 40 | 6 | 40 | 20 | 3 |
| P6V2FB1 | 5.76 | 6.14 | | | | | |
| P6V2FB2 | 5.98 | 6.33 | | | | | |
| P6V2FB3 | 6.17 | 6.52 | | | | | |
| P6V8FB | 6.35 | 7.1 | 40 | 6 | 40 | 20 | 3.5 |
| P6V8FB1 | 6.35 | 6.71 | | | | | |
| P6V8FB2 | 6.55 | 6.9 | | | | | |
| P6V8FB3 | 6.74 | 7.1 | | | | | |
| P7V5FB | 6.93 | 7.8 | 40 | 4 | 40 | 20 | 4 |
| P7V5FB1 | 6.93 | 7.33 | | | | | |
| P7V5FB2 | 7.17 | 7.55 | | | | | |
| P7V5FB3 | 7.39 | 7.8 | | | | | |
| P8V2FB | 7.58 | 8.54 | 40 | 4 | 40 | 20 | 5 |
| P8V2FB1 | 7.58 | 8.03 | | | | | |
| P8V2FB2 | 7.87 | 8.28 | | | | | |
| P8V2FB3 | 8.12 | 8.54 | | | | | |
| P9V1FB | 8.34 | 9.38 | 40 | 6 | 40 | 20 | 6 |
| P9V1FB1 | 8.34 | 8.8 | | | | | |
| P9V1FB2 | 8.64 | 9.08 | | | | | |
| P9V1FB3 | 8.91 | 9.38 | | | | | |
| P10FB | 9.16 | 10.4 | 40 | 6 | 40 | 10 | 7 |
| P10FB1 | 9.16 | 9.67 | | | | | |
| P10FB2 | 9.5 | 9.99 | | | | | |
| P10FB3 | 9.83 | 10.4 | | | | | |
| P11FB | 10.22 | 11.43 | 20 | 8 | 20 | 10 | 8 |
| P11FB1 | 10.22 | 10.75 | | | | | |
| P11FB2 | 10.54 | 11.09 | | | | | |
| P11FB3 | 10.87 | 11.43 | | | | | |
| P12FB | 11.19 | 12.41 | 20 | 8 | 20 | 10 | 8 |
| P12FB1 | 11.19 | 11.77 | | | | | |
| P12FB2 | 11.5 | 12.09 | | | | | |
| P12FB3 | 11.8 | 12.41 | | | | | |
| P13FB | 12.19 | 13.83 | 20 | 10 | 20 | 10 | 10 |
| P13FB1 | 12.19 | 12.85 | | | | | |
| P13FB2 | 12.63 | 13.3 | | | | | |
| P13FB3 | 13.11 | 13.83 | | | | | |



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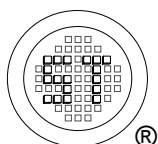


P...FB Series

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

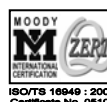
| Type | Zener Voltage ¹⁾ | | Dynamic Impedance | | | Reverse Current | |
|--------|-----------------------------|----------|-------------------|-------------------|-------------|------------------------|----------|
| | V_Z | | at I_{ZT} | Z_{ZT} | at I_{ZT} | I_R | at V_R |
| | Min. (V) | Max. (V) | (mA) | Max. (Ω) | (mA) | Max. (μA) | (V) |
| P15FB | 13.55 | 15.26 | 20 | 10 | 20 | 10 | 11 |
| P15FB1 | 13.55 | 14.28 | | | | | |
| P15FB2 | 14.05 | 14.77 | | | | | |
| P15FB3 | 14.52 | 15.26 | | | | | |
| P16FB | 14.98 | 16.71 | 20 | 12 | 20 | 10 | 12 |
| P16FB1 | 14.98 | 15.75 | | | | | |
| P16FB2 | 15.44 | 16.23 | | | | | |
| P16FB3 | 15.89 | 16.71 | | | | | |
| P18FB | 16.37 | 18.55 | 20 | 12 | 20 | 10 | 13 |
| P18FB1 | 16.37 | 17.27 | | | | | |
| P18FB2 | 17.03 | 17.91 | | | | | |
| P18FB3 | 17.64 | 18.55 | | | | | |
| P20FB | 18.26 | 20.84 | 20 | 14 | 20 | 10 | 15 |
| P20FB1 | 18.26 | 19.21 | | | | | |
| P20FB2 | 18.93 | 19.91 | | | | | |
| P20FB3 | 19.59 | 20.84 | | | | | |
| P22FB | 20.45 | 22.86 | 10 | 14 | 10 | 10 | 17 |
| P22FB1 | 20.45 | 21.51 | | | | | |
| P22FB2 | 21.10 | 22.18 | | | | | |
| P22FB3 | 21.75 | 22.86 | | | | | |
| P24FB | 22.44 | 25.14 | 10 | 16 | 10 | 10 | 19 |
| P24FB1 | 22.44 | 23.59 | | | | | |
| P24FB2 | 23.17 | 24.36 | | | | | |
| P24FB3 | 23.9 | 25.14 | | | | | |
| P27FB | 24.63 | 28.43 | 10 | 16 | 10 | 10 | 21 |
| P27FB1 | 24.63 | 26.1 | | | | | |
| P27FB2 | 25.7 | 27.12 | | | | | |
| P27FB3 | 26.72 | 28.43 | | | | | |
| P30FB | 27.43 | 31.26 | 10 | 18 | 10 | 10 | 23 |
| P30FB1 | 27.43 | 29.09 | | | | | |
| P30FB2 | 28.64 | 30.1 | | | | | |
| P30FB3 | 29.57 | 31.26 | | | | | |
| P33FB | 30.35 | 34.15 | 10 | 18 | 10 | 10 | 25 |
| P33FB1 | 30.35 | 31.97 | | | | | |
| P33FB2 | 31.49 | 33.06 | | | | | |
| P33FB3 | 32.39 | 34.15 | | | | | |
| P36FB | 33.24 | 37.01 | 10 | 20 | 10 | 10 | 27 |
| P36FB1 | 33.24 | 34.94 | | | | | |
| P36FB2 | 34.26 | 36.01 | | | | | |
| P36FB3 | 35.19 | 37.01 | | | | | |
| P39FB | 36.11 | 40.8 | 10 | 20 | 10 | 10 | 30 |
| P39FB1 | 36.11 | 38 | | | | | |
| P39FB2 | 37.14 | 39.04 | | | | | |
| P39FB3 | 38.13 | 40.8 | | | | | |
| P43FB | 40 | 45 | 10 | 50 | 10 | 5 | 33 |
| P47FB | 44 | 49 | 10 | 50 | 10 | 5 | 36 |
| P51FB | 48 | 54 | 10 | 50 | 10 | 5 | 39 |

¹⁾ Tested with pulse (20 ms).



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Dated : 18/07/2009