

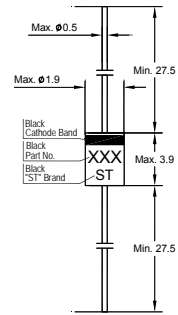
# HZxxxPF

## Silicon Epitaxial Planar Zener Diodes

for stabilized power supply

### Features

- Low leakage, low zener impedance and maximum power dissipation of 500 mW are ideally suited for stabilized power supply, etc.
- Wide spectrum from 1.8 V through 38 V of zener voltage provide flexible application.
- Lead Free



Glass Case DO-35  
Dimensions in mm

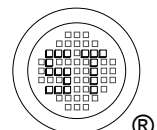
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{\text{tot}}$	500	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 55 to + 175	$^\circ\text{C}$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient <sup>1)</sup>	$R_{\theta\text{JA}}$	300	$^\circ\text{C/W}$

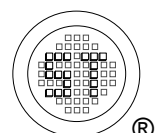
<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.



# HZxxxPF

## Characteristics at $T_a = 25^\circ\text{C}$ ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

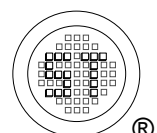
Type	Zener Voltage <sup>1)</sup>			Reverse Leakage Current		Dynamic Resistance	
	$V_Z$		at $I_{ZT}$	$I_R$	at $V_R$	$Z_{ZT}$	at $I_{ZT}$
	Min. (V)	Max. (V)	(mA)	Max. ( $\mu\text{A}$ )	(V)	Max. ( $\Omega$ )	(mA)
HZ2A3PF	1.8	2	5	25	0.5	100	5
HZ2B1PF	1.9	2.1	5	5	0.5	100	5
HZ2B2PF	2	2.2	5	5	0.5	100	5
HZ2B3PF	2.1	2.3	5	5	0.5	100	5
HZ2C1PF	2.2	2.4	5	5	0.5	100	5
HZ2C2PF	2.3	2.5	5	5	0.5	100	5
HZ2C3PF	2.4	2.6	5	5	0.5	100	5
HZ3A1PF	2.5	2.7	5	5	0.5	100	5
HZ3A2PF	2.6	2.8	5	5	0.5	100	5
HZ3A3PF	2.7	2.9	5	5	0.5	100	5
HZ3B1PF	2.8	3	5	5	0.5	100	5
HZ3B2PF	2.9	3.1	5	5	0.5	100	5
HZ3B3PF	3	3.2	5	5	0.5	100	5
HZ3C1PF	3.1	3.3	5	5	0.5	100	5
HZ3C2PF	3.2	3.4	5	5	0.5	100	5
HZ3C3PF	3.3	3.5	5	5	0.5	100	5
HZ4A1PF	3.4	3.6	5	5	1	100	5
HZ4A2PF	3.5	3.7	5	5	1	100	5
HZ4A3PF	3.6	3.8	5	5	1	100	5
HZ4B1PF	3.7	3.9	5	5	1	100	5
HZ4B2PF	3.8	4	5	5	1	100	5
HZ4B3PF	3.9	4.1	5	5	1	100	5
HZ4C1PF	4	4.2	5	5	1	100	5
HZ4C2PF	4.1	4.3	5	5	1	100	5



# HZxxxPF

Characteristics at  $T_a = 25^\circ\text{C}$  ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>			Reverse Leakage Current		Dynamic Resistance	
	$V_Z$		at $I_{ZT}$	$I_R$	at $V_R$	$Z_{ZT}$	at $I_{ZT}$
	Min. (V)	Max. (V)	(mA)	Max. ( $\mu\text{A}$ )	(V)	Max. ( $\Omega$ )	(mA)
HZ4C3PF	4.2	4.4	5	5	1	100	5
HZ5A1PF	4.3	4.5	5	5	1.5	100	5
HZ5A2PF	4.4	4.6	5	5	1.5	100	5
HZ5A3PF	4.5	4.7	5	5	1.5	100	5
HZ5B1PF	4.6	4.8	5	5	1.5	100	5
HZ5B2PF	4.7	4.9	5	5	1.5	100	5
HZ5B3PF	4.8	5	5	5	1.5	100	5
HZ5C1PF	4.9	5.1	5	5	1.5	100	5
HZ5C2PF	5	5.2	5	5	1.5	100	5
HZ5C3PF	5.1	5.3	5	5	1.5	100	5
HZ6A1PF	5.2	5.5	5	5	2	40	5
HZ6A2PF	5.3	5.6	5	5	2	40	5
HZ6A3PF	5.4	5.7	5	5	2	40	5
HZ6B1PF	5.5	5.8	5	5	2	40	5
HZ6B2PF	5.6	5.9	5	5	2	40	5
HZ6B3PF	5.7	6	5	5	2	40	5
HZ6C1PF	5.8	6.1	5	5	2	40	5
HZ6C2PF	6	6.3	5	5	2	40	5
HZ6C3PF	6.1	6.4	5	5	2	40	5
HZ7A1PF	6.3	6.6	5	1	3.5	15	5
HZ7A2PF	6.4	6.7	5	1	3.5	15	5
HZ7A3PF	6.6	6.9	5	1	3.5	15	5
HZ7B1PF	6.7	7	5	1	3.5	15	5
HZ7B2PF	6.9	7.2	5	1	3.5	15	5
HZ7B3PF	7	7.3	5	1	3.5	15	5
HZ7C1PF	7.2	7.6	5	1	3.5	15	5
HZ7C2PF	7.3	7.7	5	1	3.5	15	5
HZ7C3PF	7.5	7.9	5	1	3.5	15	5
HZ9A1PF	7.7	8.1	5	1	5	20	5
HZ9A2PF	7.9	8.3	5	1	5	20	5
HZ9A3PF	8.1	8.5	5	1	5	20	5
HZ9B1PF	8.3	8.7	5	1	5	20	5
HZ9B2PF	8.5	8.9	5	1	5	20	5
HZ9B3PF	8.7	9.1	5	1	5	20	5
HZ9C1PF	8.9	9.3	5	1	5	20	5
HZ9C2PF	9.1	9.5	5	1	5	20	5
HZ9C3PF	9.3	9.7	5	1	5	20	5
HZ11A1PF	9.5	9.9	5	1	7.5	25	5
HZ11A2PF	9.7	10.1	5	1	7.5	25	5
HZ11A3PF	9.9	10.3	5	1	7.5	25	5
HZ11B1PF	10.2	10.6	5	1	7.5	25	5
HZ11B2PF	10.4	10.8	5	1	7.5	25	5
HZ11B3PF	10.7	11.1	5	1	7.5	25	5
HZ11C1PF	10.9	11.3	5	1	7.5	25	5
HZ11C2PF	11.1	11.6	5	1	7.5	25	5
HZ11C3PF	11.4	11.9	5	1	7.5	25	5

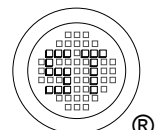


# HZxxxPF

## Characteristics at $T_a = 25^\circ\text{C}$ ( $V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$ )

Type	Zener Voltage <sup>1)</sup>			Reverse Leakage Current		Dynamic Resistance	
	$V_Z$		at $I_{ZT}$	$I_R$	at $V_R$	$Z_{ZT}$	at $I_{ZT}$
	Min. (V)	Max. (V)	(mA)	Max. ( $\mu\text{A}$ )	(V)	Max. ( $\Omega$ )	(mA)
HZ12A1PF	11.6	12.1	5	1	9.5	35	5
HZ12A2PF	11.9	12.4	5	1	9.5	35	5
HZ12A3PF	12.2	12.7	5	1	9.5	35	5
HZ12B1PF	12.4	12.9	5	1	9.5	35	5
HZ12B2PF	12.6	13.1	5	1	9.5	35	5
HZ12B3PF	12.9	13.4	5	1	9.5	35	5
HZ12C1PF	13.2	13.7	5	1	9.5	35	5
HZ12C2PF	13.5	14	5	1	9.5	35	5
HZ12C3PF	13.8	14.3	5	1	9.5	35	5
HZ15-1PF	14.1	14.7	5	1	11	40	5
HZ15-2PF	14.5	15.1	5	1	11	40	5
HZ15-3PF	14.9	15.5	5	1	11	40	5
HZ16-1PF	15.3	15.9	5	1	12	45	5
HZ16-2PF	15.7	16.5	5	1	12	45	5
HZ16-3PF	16.3	17.1	5	1	12	45	5
HZ18-1PF	16.9	17.7	5	1	13	55	5
HZ18-2PF	17.5	18.3	5	1	13	55	5
HZ18-3PF	18.1	19	5	1	13	55	5
HZ20-1PF	18.8	19.7	2	1	15	60	2
HZ20-2PF	19.5	20.4	2	1	15	60	2
HZ20-3PF	20.2	21.1	2	1	15	60	2
HZ22-1PF	20.9	21.9	2	1	17	65	2
HZ22-2PF	21.6	22.6	2	1	17	65	2
HZ22-3PF	22.3	23.3	2	1	17	65	2
HZ24-1PF	22.9	24	2	1	19	70	2
HZ24-2PF	23.6	24.7	2	1	19	70	2
HZ24-3PF	24.3	25.5	2	1	19	70	2
HZ27-1PF	25.2	26.6	2	1	21	80	2
HZ27-2PF	26.2	27.6	2	1	21	80	2
HZ27-3PF	27.2	28.6	2	1	21	80	2
HZ30-1PF	28.2	29.6	2	1	23	100	2
HZ30-2PF	29.2	30.6	2	1	23	100	2
HZ30-3PF	30.2	31.6	2	1	23	100	2
HZ33-1PF	31.2	32.6	2	1	25	120	2
HZ33-2PF	32.2	33.6	2	1	25	120	2
HZ33-3PF	33.2	34.6	2	1	25	120	2
HZ36-1PF	34.2	35.7	2	1	27	140	2
HZ36-2PF	35.3	36.8	2	1	27	140	2
HZ36-3PF	36.4	38	2	1	27	140	2

<sup>1)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .



## Electrical Characteristics Curves

Fig 1. Zener Characteristics Curve

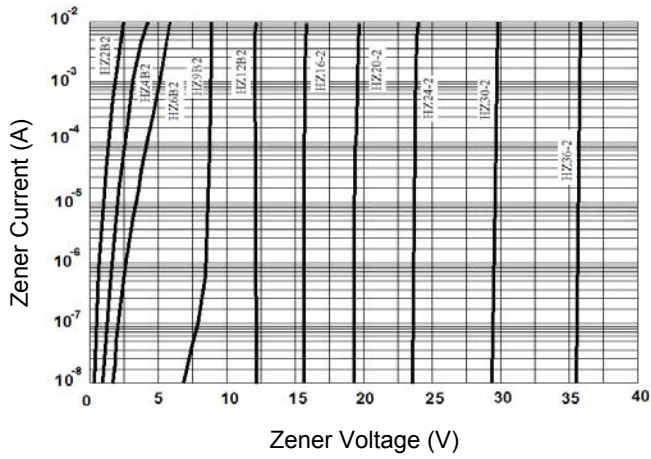


Fig 2. Temperature Coefficient vs.Zener Voltage

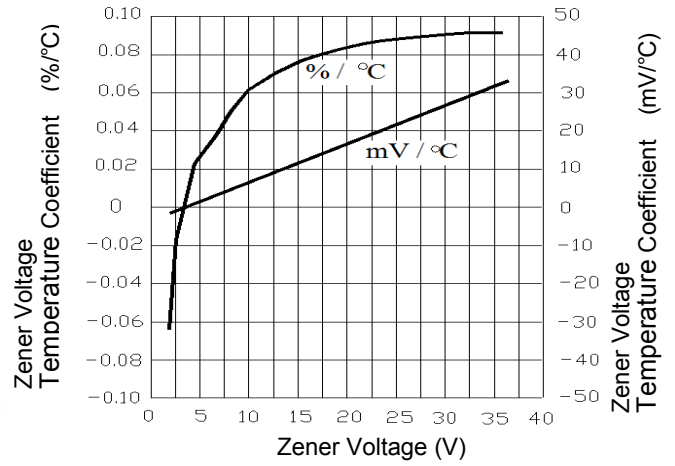
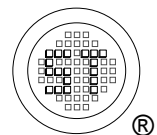
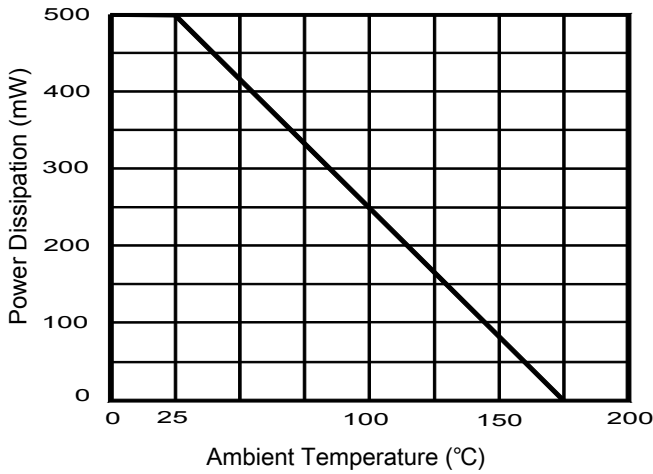


Fig 3. Power Derating Curve



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