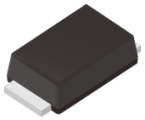
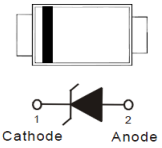
PZ1SMAF2V5B ~ PZ1SMAF75B Series

SILICON ZENER DIODE

Voltage 2.5~75 V **Power** 1 W

SMAF





Features

- Silicon planar Zener diode
- Low profile surface-mount package
- Low leakage current
- Excellent stability
- High temperature soldering: 260 °C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SMAF, plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.001 ounces, 0.032 grams

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation at T_A = 25°C	P_D (1)	1	W
ESD Voltage per IEC61000-4-2 (Air) ESD Voltage per IEC61000-4-2 (Contact)	V_{ESD}	±30 ±30	kV
Typical Thermal Resistance	$R_{\theta JA}$ (2)	150	°C /W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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Electrical Characteristics (T_A = 25°C unless otherwise noted)

Part Number	Nominal Zener Voltage				Nominal Zener Impedance				Max. Reverse Leakage Current		Marking Code
	V_Z@I_{ZT}				Z_{ZT}@I_{ZT}		Z_{ZK}@I_{ZK}		I_R@V_R		
	Nom. V	Min. V	Max. V	mA	Ω	mA	Ω	mA	uA	V	
PZ1SMAF2V5B	2.5	2.37	2.63	40	15	40	1500	1	200	0.7	F2V5B
PZ1SMAF3V6B	3.6	3.42	3.78	100	8	100	400	1	100	1	F3V6B
PZ1SMAF3V9B	3.9	3.71	4.10	100	8	100	400	1	50	1	F3V9B
PZ1SMAF4V3B	4.3	4.09	4.52	100	7	100	400	1	25	1	F4V3B
PZ1SMAF4V7B	4.7	4.47	4.94	100	7	100	400	1	10	1	F4V7B
PZ1SMAF5V1B	5.1	4.85	5.36	100	6	100	550	1	5	1	F5V1B
PZ1SMAF5V6B	5.6	5.32	5.88	100	4	100	600	1	10	2	F5V6B
PZ1SMAF6V0B	6	5.7	6.3	100	3	100	600	1	8	2	F6V0B
PZ1SMAF6V2B	6.2	5.89	6.51	100	3	100	700	1	5	2	F6V2B
PZ1SMAF6V8B	6.8	6.46	7.14	100	3	100	700	1	10	3	F6V8B
PZ1SMAF7V5B	7.5	7.13	7.88	100	2	100	700	0.5	50	3	F7V5B
PZ1SMAF8V2B	8.2	7.79	8.61	100	2	100	700	0.5	10	3	F8V2B
PZ1SMAF8V7B	8.7	8.27	9.14	50	3	50	700	0.5	10	4	F8V7B
PZ1SMAF9V1B	9.1	8.65	9.56	50	4	50	700	0.5	10	5	F9V1B
PZ1SMAF10B	10	9.50	10.50	50	4	50	700	0.25	7	7.5	F10VB
PZ1SMAF11B	11	10.45	11.55	50	7	50	700	0.25	4	8.2	F11VB
PZ1SMAF12B	12	11.40	12.60	50	7	50	700	0.25	3	9.1	F12VB
PZ1SMAF13B	13	12.35	13.65	50	10	50	700	0.25	2	10	F13VB
PZ1SMAF14B	14	13.30	14.70	50	10	50	700	0.25	2	11	F14VB
PZ1SMAF15B	15	14.25	15.75	50	10	50	700	0.25	1	11	F15VB
PZ1SMAF16B	16	15.20	16.80	25	15	25	700	0.25	1	12	F16VB
PZ1SMAF17B	17	16.15	17.85	25	15	25	750	0.25	1	13	F17VB
PZ1SMAF18B	18	17.10	18.90	25	15	25	750	0.25	1	13	F18VB
PZ1SMAF19B	19	18.05	19.95	25	15	25	750	0.25	1	14	F19VB
PZ1SMAF20B	20	19.00	21.00	25	15	25	750	0.25	1	15	F20VB
PZ1SMAF22B	22	20.90	23.10	25	15	25	750	0.25	1	16	F22VB
PZ1SMAF24B	24	22.80	25.20	25	15	25	750	0.25	1	18	F24VB
PZ1SMAF25B	25	23.75	26.25	25	15	25	750	0.25	1	19	F25VB
PZ1SMAF27B	27	25.65	28.35	25	15	25	750	0.25	1	20	F27VB

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	V_Z@I_{ZT}				Z_{ZT}@I_{ZT}		Z_{ZK}@I_{ZK}		I_R@V_R		
	Nom. V	Min. V	Max. V	mA	Ω	mA	Ω	mA	uA	V	
PZ1SMAF28B	28	26.60	29.40	25	15	25	1000	0.25	1	21	F28VB
PZ1SMAF30B	30	28.50	31.50	25	15	25	1000	0.25	1	22	F30VB
PZ1SMAF33B	33	31.35	34.65	25	15	25	1000	0.25	1	24	F33VB
PZ1SMAF36B	36	34.20	37.80	10	40	10	1000	0.25	1	27	F36VB
PZ1SMAF39B	39	37.05	40.95	10	40	10	1000	0.25	1	30	F39VB
PZ1SMAF43B	43	40.85	45.15	10	45	10	1500	0.25	1	33	F43VB
PZ1SMAF47B	47	44.65	49.35	10	45	10	1500	0.25	1	36	F47VB
PZ1SMAF51B	51	48.45	53.55	10	60	10	1500	0.25	1	39	F51VB
PZ1SMAF56B	56	53.20	58.80	10	60	10	2000	0.25	1	43	F56VB
PZ1SMAF62B	62	58.90	65.10	10	80	10	2000	0.25	1	47	F62VB
PZ1SMAF68B	68	64.60	71.40	10	80	10	2000	0.25	1	51	F68VB
PZ1SMAF75B	75	71.25	78.75	10	100	10	2000	0.25	1	56	F75VB

NOTES:

1. Mounted on a 5mm^2 copper pads to each terminal.
2. Mounted on a FR-4 PCB, single-sided copper, mini pad .

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TYPICAL CHARACTERISTIC CURVES

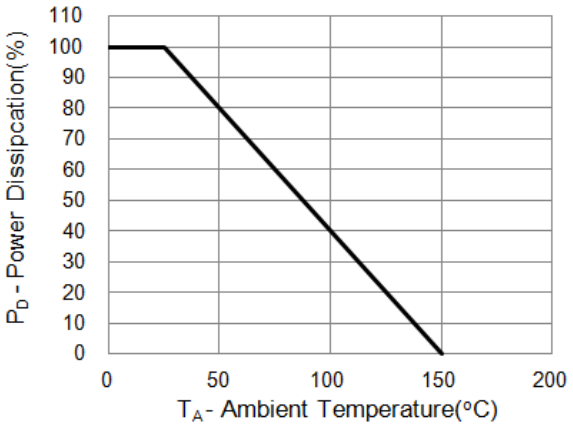

Fig.1 Power Derating Curve

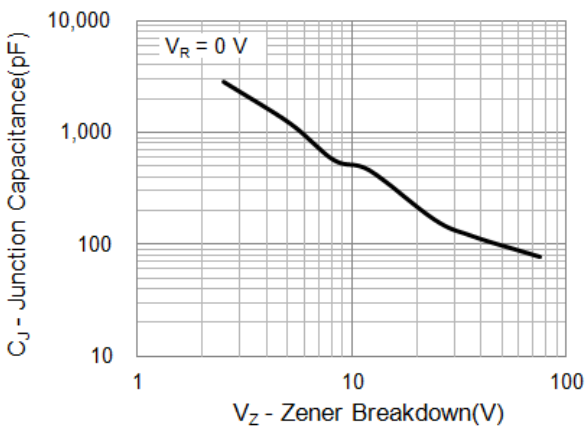

Fig.2 Typical Junction Capacitance

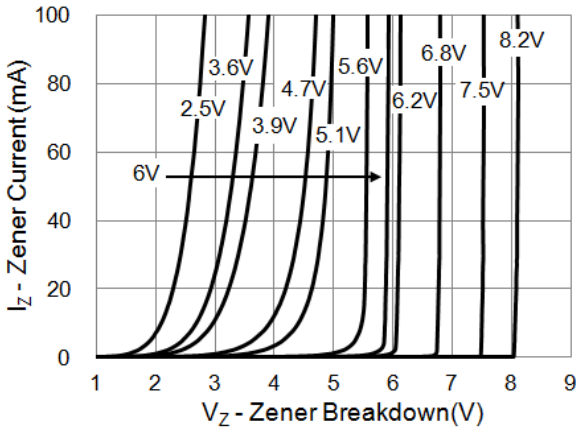

Fig.3 Typical Zener Breakdown

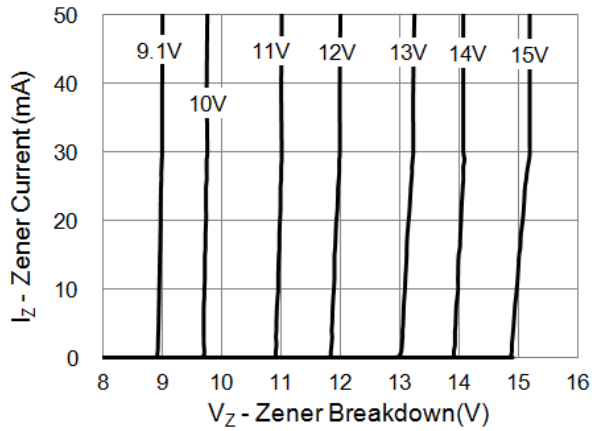

Fig.4 Typical Zener Breakdown

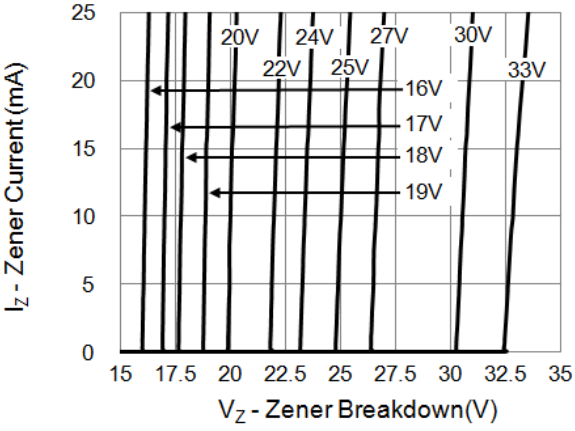

Fig.5 Typical Zener Breakdown

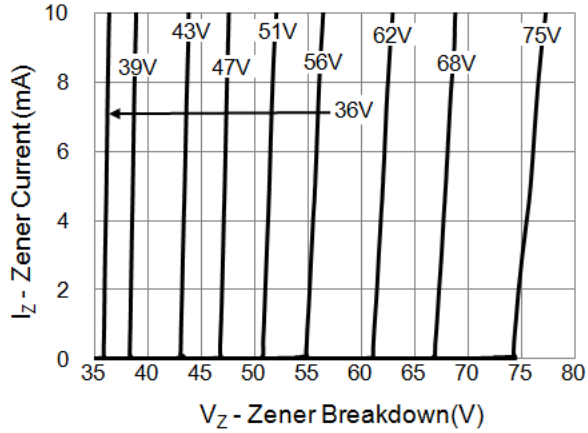

Fig.6 Typical Zener Breakdown