

SMB SURFACE MOUNT SILICON ZENER DIODES

Features

- Low Zener impedance
- Power dissipation: 5 W
- High stability and high reliability
- Small plastic package, suitable for surface mount applications

Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

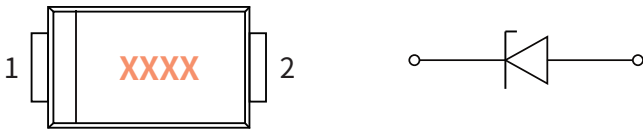
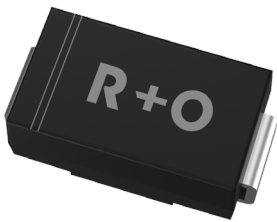
Mechanical Data

- Case: DO-214AA(SMB)
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Zener Diode
5.1 Volts
Power Dissipation
5.0 Watts

DO-214AA(SMB)



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation at Tc=75°C	P _D	W	5
Forward Voltage @ I _F =200mA	V _F	V	1.2
Storage Temperature	T _{stg}	°C	-55 ~+150
Junction Temperature	T _j	°C	-55 ~+150
Typical Thermal Resistance	R _{θJA}	°C /W	90

Electrical Parameter

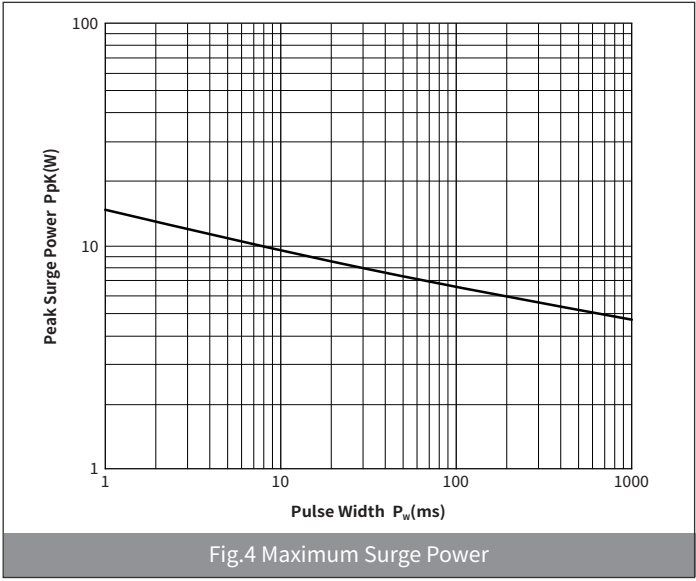
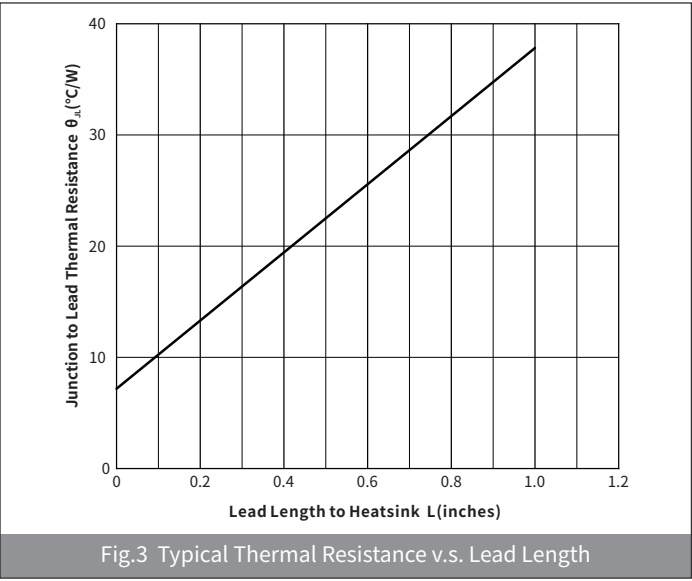
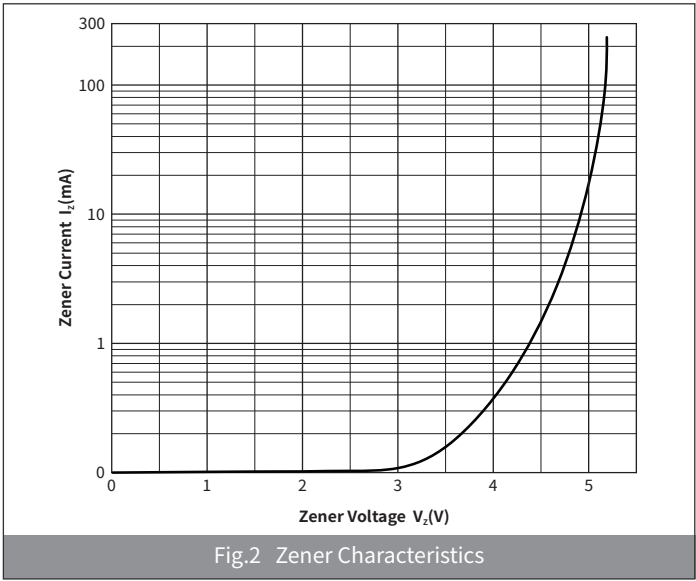
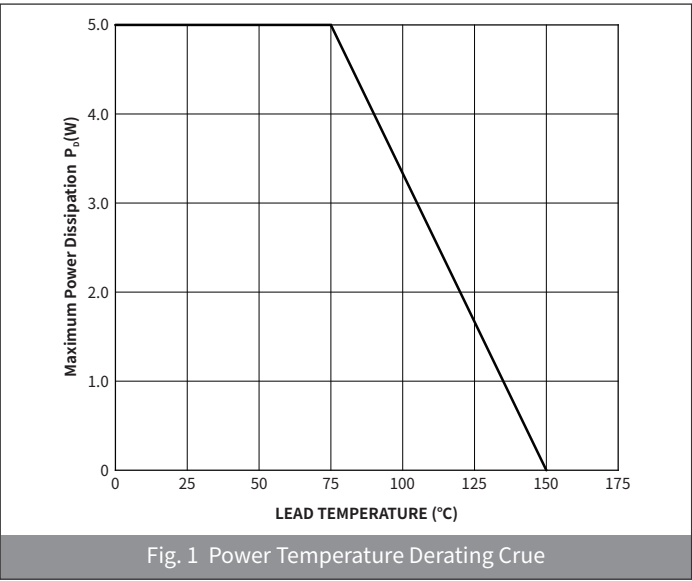
SYMBOL	PARAMETER
V _Z	Reverse zener voltage @ I _{ZT}
I _{ZT}	Reverse current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ I _{ZK}
I _R	Reverse leakage current @ V _R
V _R	Reverse voltage
I _F	Forward current
V _F	Forward voltage @ I _F

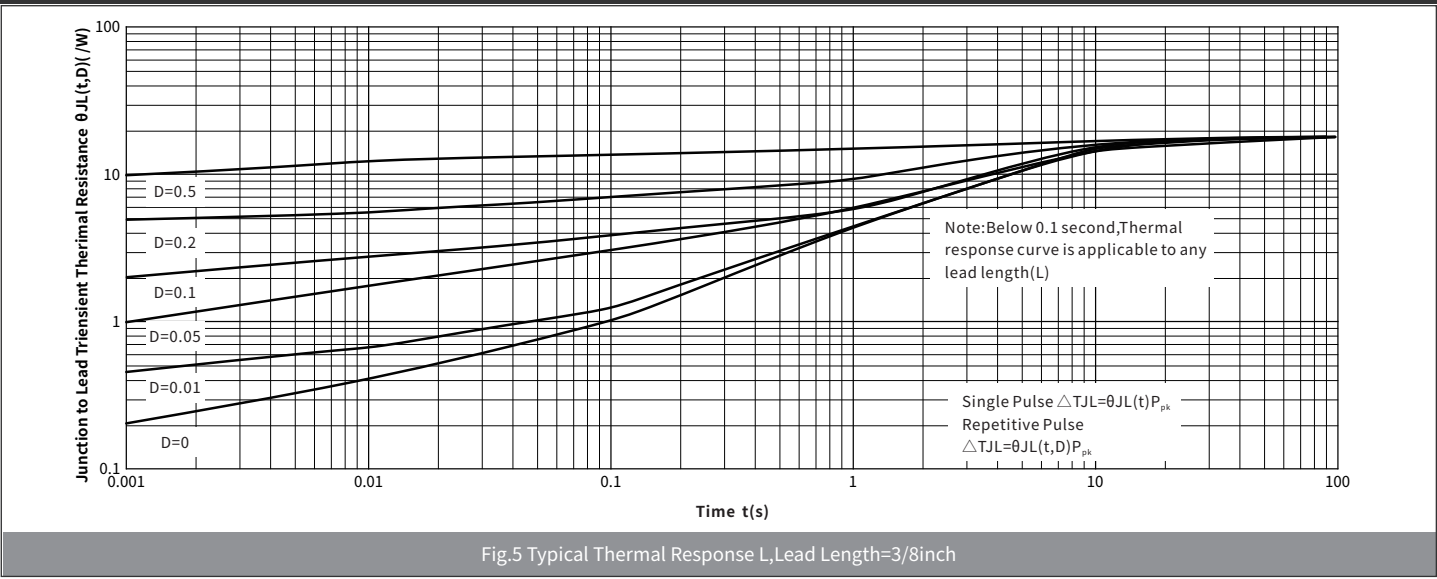
Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Regulator Voltage	Test Current	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current	Maximum Surge Current	Maximum Voltage Regulation
		$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$		I_{ZM}	I_{ZSM}	
		(V)	(mA)	(Ω)		(mA)	(μA)	(V)	(mA)	(A)	
SMBJ5338B	SMB5338B	5.1	240	1.5	400	1.0	1.0	1.0	930	14.4	0.39

Note :
(1)The type number listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$
(2)The reverse surge current is a non-repetitive equivalent sine wave, 8.3 ms pulse width, superimposed on I_{ZT} per specified method.

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)





● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMB	R3	0.098	3000	6000	48000	13"

● Package Outline Dimensions (SMB/DO-214AA)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.85	2.21	0.073	0.087
B	4.25	4.85	0.167	0.191
C	3.30	3.94	0.130	0.155
D	2.15	2.65	0.085	0.104
E	0.75	1.52	0.030	0.060
F	-	0.203	-	0.008
G	5.08	5.59	0.200	0.220
H	0.15	0.31	0.006	0.012

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	2.45	2.55	0.096	0.100
J	1.75	1.85	0.069	0.073
K	2.41	2.51	0.095	0.099

The pad layout is for reference only.