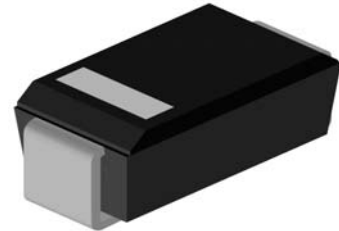




## Zener diode

### Features

1. For surface mounted applications
2. Low zener impedance
3. Low regulation factor
4.  $V_Z$ -tolerance  $\pm 5\%$



### Applications

Voltage stabilization

### Absolute Maximum Ratings

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$T_{amb} \leq 50^\circ\text{C}$		$P_d$	1	W
Z-current			$I_z$	$P_V/V_Z$	mA
Junction temperature			$T_j$	200	$^\circ\text{C}$
Storage temperature range			$T_{stg}$	-65~+175	$^\circ\text{C}$

### Maximum Thermal Resistance

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l=9.5\text{mm}(3/8")$ $T_L=\text{constant}$	$R_{thJA}$	100	K/W

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

### Electrical Characteristics

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=200\text{mA}$		$V_F$			1.2	V



Type	Device marking	$V_{Znom}^{1)}$	$I_{ZT}$ for		$r_{zIK}$ at		$I_{ZK}$	$I_R$ at		$V_R$
		V	mA	$\Omega$	$\Omega$	mA	$\mu A$	V		
SMA4728A	4728A	3.3	76	<10	<400	1	<100	1		
SMA4729A	4729A	3.6	69	<10	<400	1	<100	1		
SMA4730A	4730A	3.9	64	<9	<400	1	<50	1		
SMA4731A	4731A	4.3	58	<9	<400	1	<10	1		
SMA4732A	4732A	4.7	53	<8	<500	1	<10	1		
SMA4733A	4733A	5.1	49	<7	<550	1	<10	1		
SMA4734A	4734A	5.6	45	<5	<600	1	<10	2		
SMA4735A	4735A	6.2	41	<2	<700	1	<10	3		
SMA4736A	4736A	6.8	37	<3.5	<700	1	<10	4		
SMA4737A	4737A	7.5	34	<4.0	<700	0.5	<10	5		
SMA4738A	4738A	8.2	31	<4.5	<700	0.5	<10	6		
SMA4739A	4739A	9.1	28	<5.0	<700	0.5	<10	7		
SMA4740A	4740A	10	25	<7	<700	0.25	<10	7.6		
SMA4741A	4741A	11	23	<8	<700	0.25	<5	8.4		
SMA4742A	4742A	12	21	<9	<700	0.25	<5	9.1		
SMA4743A	4743A	13	19	<10	<700	0.25	<5	9.9		
SMA4744A	4744A	15	17	<14	<700	0.25	<5	11.4		
SMA4745A	4745A	16	15.5	<16	<700	0.25	<5	12.2		
SMA4746A	4746A	18	14	<20	<750	0.25	<5	13.7		
SMA4747A	4747A	20	12.5	<22	<750	0.25	<5	15.2		
SMA4748A	4748A	22	11.5	<23	<750	0.25	<5	16.7		
SMA4749A	4749A	24	10.5	<25	<750	0.25	<5	18.2		
SMA4750A	4750A	27	9.5	<35	<750	0.25	<5	20.6		
SMA4751A	4751A	30	8.5	<40	<1000	0.25	<5	22.8		
SMA4752A	4752A	33	7.5	<45	<1000	0.25	<5	25.1		
SMA4753A	4753A	36	7.0	<50	<1000	0.25	<5	27.4		
SMA4754A	4754A	39	6.5	<60	<1000	0.25	<5	29.7		
SMA4755A	4755A	43	6.0	<70	<1500	0.25	<5	32.7		
SMA4756A	4756A	47	5.5	<80	<1500	0.25	<5	35.8		
SMA4757A	4757A	51	5.0	<95	<1500	0.25	<5	38.8		
SMA4758A	4758A	56	4.5	<110	<2000	0.25	<5	42.6		
SMA4759A	4759A	62	4.0	<125	<2000	0.25	<5	47.1		
SMA4760A	4760A	68	3.7	<150	<2000	0.25	<5	51.7		
SMA4761A	4761A	75	3.3	<175	<2000	0.25	<5	56		
SMA4762A	4762A	82	3.0	<200	<3000	0.25	<5	62.2		
SMA4763A	4763A	91	2.8	<250	<3000	0.25	<5	69.2		
SMA4764A	4764A	100	2.5	<350	<3000	0.25	<5	76		

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature ( $T_L$ ) at 30°C, 9.5mm(3/8") from the diode body.



Characteristics ( $T_j=25^\circ\text{C}$  unless otherwise specified)

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 @ $V_R$
$V_R$	Breakdown voltage
$I_F$	Forward current
$V_F$	Forward voltage @ $I_F$

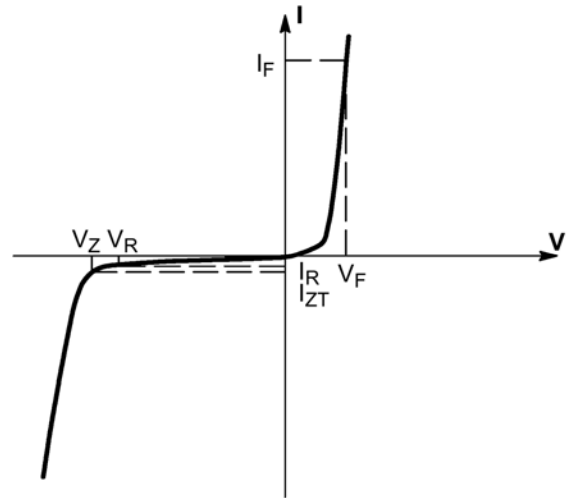


Figure 1. Zener voltage regulator

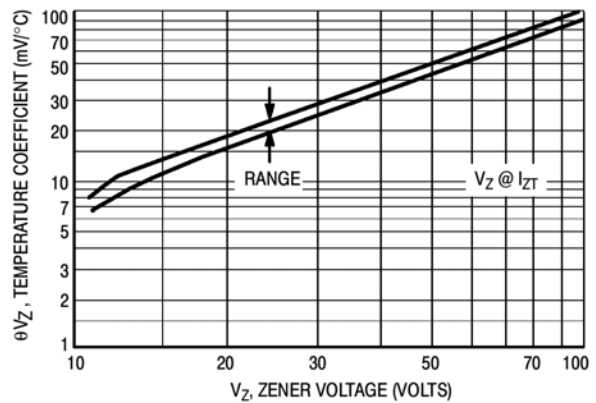
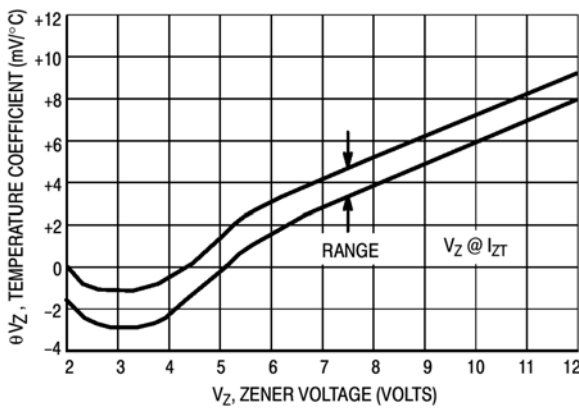


Figure 2. Temperature coefficients

( $-55^\circ\text{C}$  to  $+150^\circ\text{C}$  temperature range; 90% of the units are in the ranges indicated)

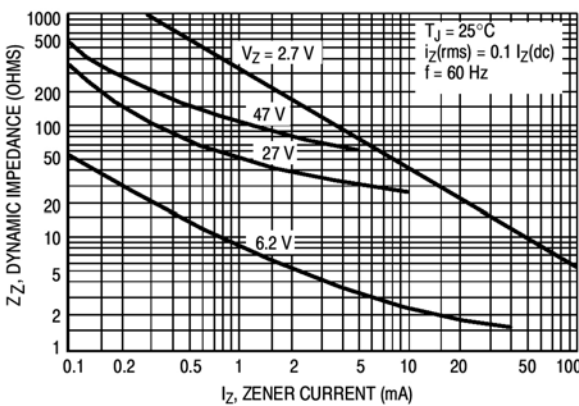


Figure 3. Effect of zener current on zener impedance

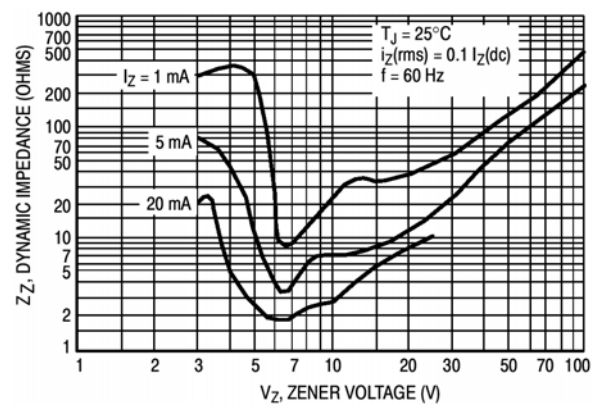
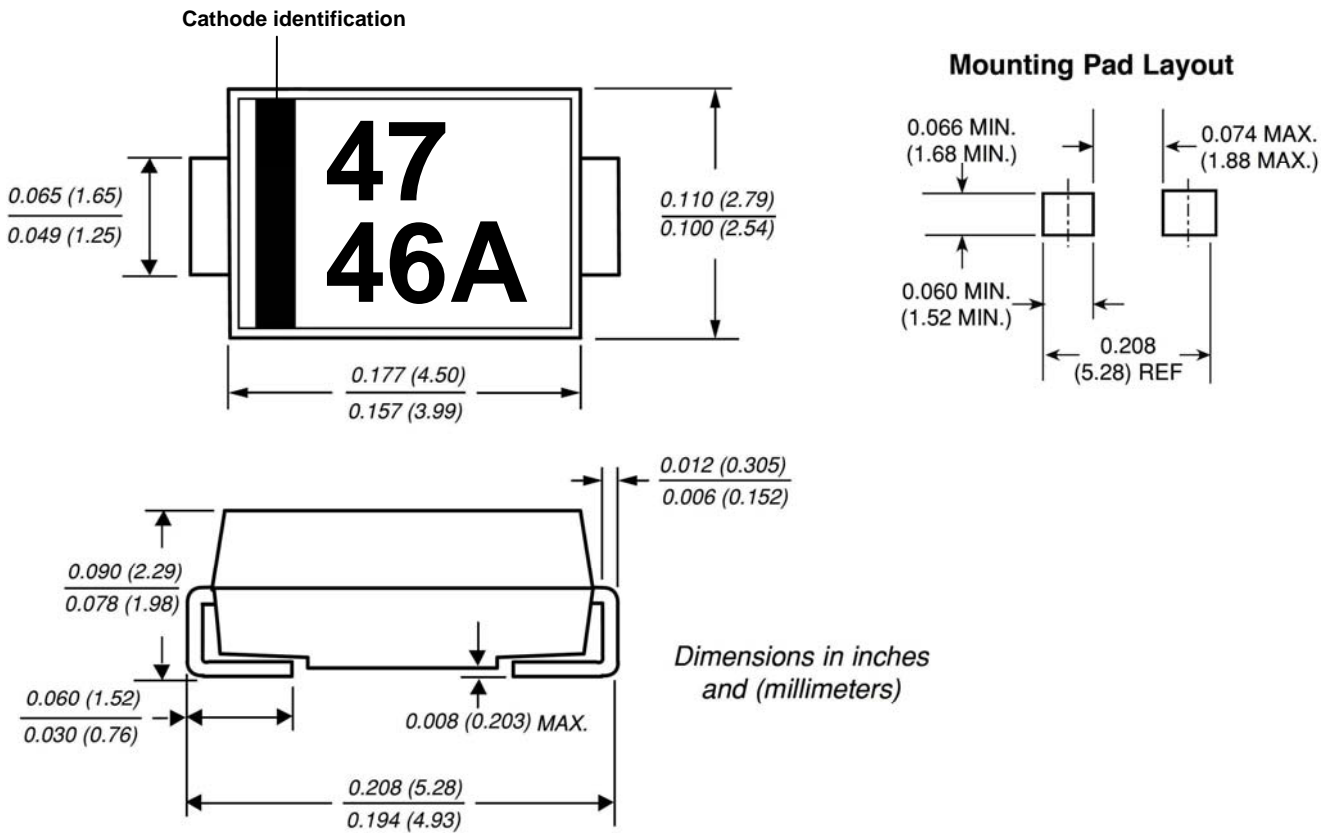


Figure 4. Effect of zener voltage on zener impedance



Dimensions in inches (mm)



DO-214AC (SMA)