



# Zener diode

## Features

1. High reliability
2. Very sharp reverse characteristic
3. Low reverse current level
4.  $V_Z$ -tolerance  $\pm 2\%$



## Applications

Voltage stabilization

## Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$T_{amb} \leq 50\text{ }^\circ\text{C}$		$P_V$	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	$^\circ\text{C}$

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

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

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



Type	$V_{Znom}^{1)}$	$I_{ZT}$ mA	for	$r_{zIT}$ $\Omega$	$r_{zJK}$ $\Omega$	at	$I_{ZK}$ mA	at	$I_R$ $\mu A$	$V_R$ V
	V									
DL4728C	3.3	76		<10	<400		1		<100	1
DL4729C	3.6	69		<10	<400		1		<100	1
DL4730C	3.9	64		<9	<400		1		<50	1
DL4731C	4.3	58		<9	<400		1		<10	1
DL4732C	4.7	53		<8	<500		1		<10	1
DL4733C	5.1	49		<7	<550		1		<10	1
DL4734C	5.6	45		<5	<600		1		<10	2
DL4735C	6.2	41		<2	<700		1		<10	3
DL4736C	6.8	37		<3.5	<700		1		<10	4
DL4737C	7.5	34		<4.0	<700		0.5		<10	5
DL4738C	8.2	31		<4.5	<700		0.5		<10	6
DL4739C	9.1	28		<5.0	<700		0.5		<10	7
DL4740C	10	25		<7	<700		0.25		<10	7.6
DL4741C	11	23		<8	<700		0.25		<5	8.4
DL4742C	12	21		<9	<700		0.25		<5	9.1
DL4743C	13	19		<10	<700		0.25		<5	9.9
DL4744C	15	17		<14	<700		0.25		<5	11.4
DL4745C	16	15.5		<16	<700		0.25		<5	12.2
DL4746C	18	14		<20	<750		0.25		<5	13.7
DL4747C	20	12.5		<22	<750		0.25		<5	15.2
DL4748C	22	11.5		<23	<750		0.25		<5	16.7
DL4749C	24	10.5		<25	<750		0.25		<5	18.2
DL4750C	27	9.5		<35	<750		0.25		<5	20.6
DL4751C	30	8.5		<40	<1000		0.25		<5	22.8
DL4752C	33	7.5		<45	<1000		0.25		<5	25.1
DL4753C	36	7.0		<50	<1000		0.25		<5	27.4
DL4754C	39	6.5		<60	<1000		0.25		<5	29.7
DL4755C	43	6.0		<70	<1500		0.25		<5	32.7
DL4756C	47	5.5		<80	<1500		0.25		<5	35.8
DL4757C	51	5.0		<95	<1500		0.25		<5	38.8
DL4758C	56	4.5		<110	<2000		0.25		<5	42.6
DL4759C	62	4.0		<125	<2000		0.25		<5	47.1
DL4760C	68	3.7		<150	<2000		0.25		<5	51.7
DL4761C	75	3.3		<175	<2000		0.25		<5	56
DL4762C	82	3.0		<200	<3000		0.25		<5	62.2
DL4763C	91	2.8		<250	<3000		0.25		<5	69.2
DL4764C	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 @ $I_F$

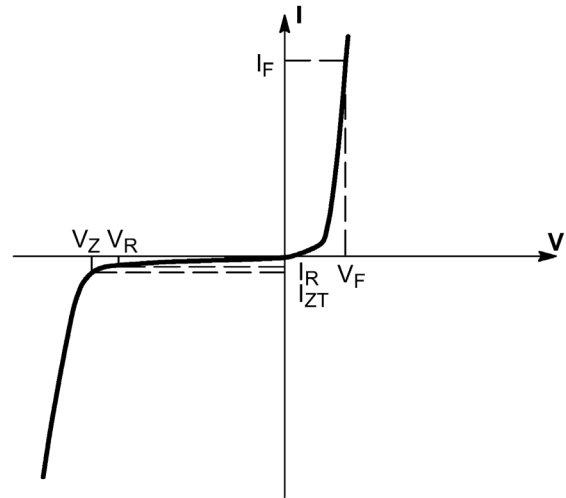


Figure 1. Zener voltage regulator

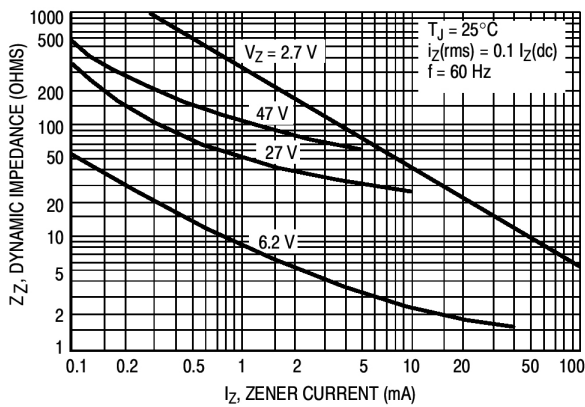


Figure 2. Effect of zener current on zener impedance

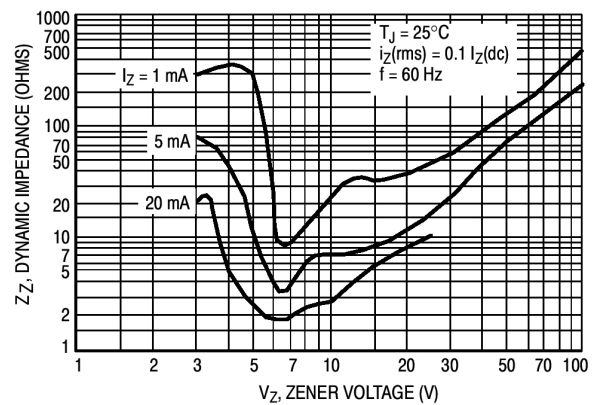
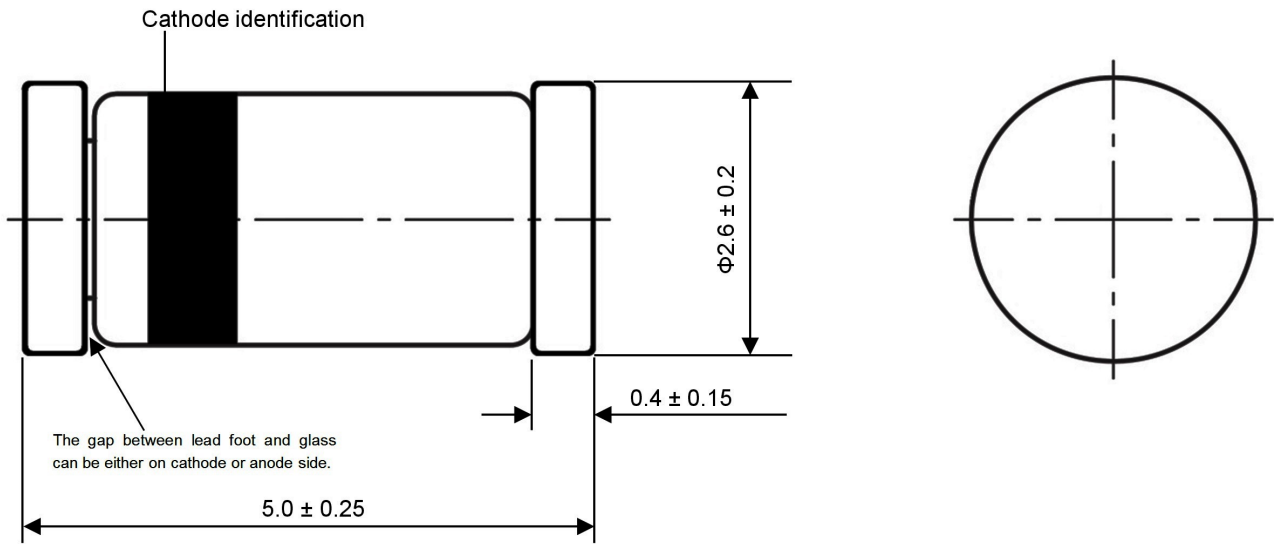


Figure 3. Effect of zener voltage on zener impedance



**Dimensions in mm**



Standard Glass Case  
JEDEC LL-41