

**Zener Diode Series**

# ZD52XXBSG

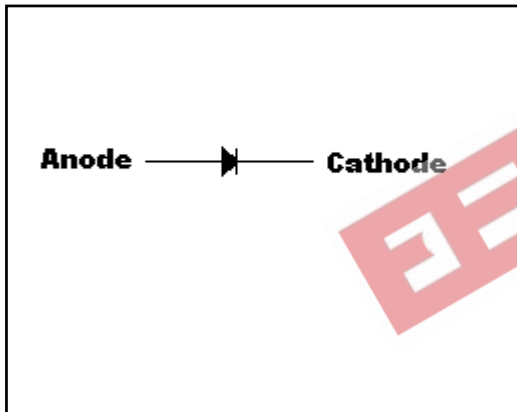
**Description**

The ZD52XXBSG series covers zener voltage range from 2.4V to 33V, and is encapsulated in SOD-323 package, very suitable for low cost, low power voltage regulation application.

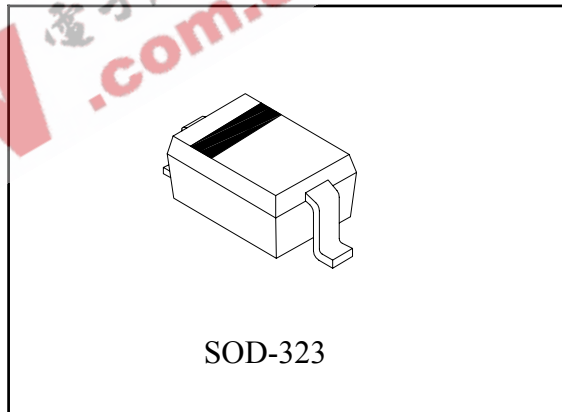
**Mechanical Data**

- Case: Molded Plastic, JEDEC SOD-323.
- Terminals: Solder plated, solderable per MIL-STD-750 Method 2026
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight: 0.0045 gram, 0.000159 ounce

**Symbol**



**Outline**



**Absolute Maximum Ratings**( $T_a=25^{\circ}\text{C}$ , unless otherwise specified)

- Maximum Temperatures
  - Storage Temperature  $T_{stg}$  ..... -55~+150 °C
  - Junction Temperature  $T_j$  ..... +150 °C
- Maximum Power Dissipation
  - Total Power Dissipation  $P_{tot}$  (Note)..... 200 mW
  - Derate above 25°C ..... 1.57mW/°C
- Thermal Resistance, Junction to Ambient Air  $R_{\theta JA}$ .....625°C/W

Note : Parts mounted on FR-5 board with minimum pad.

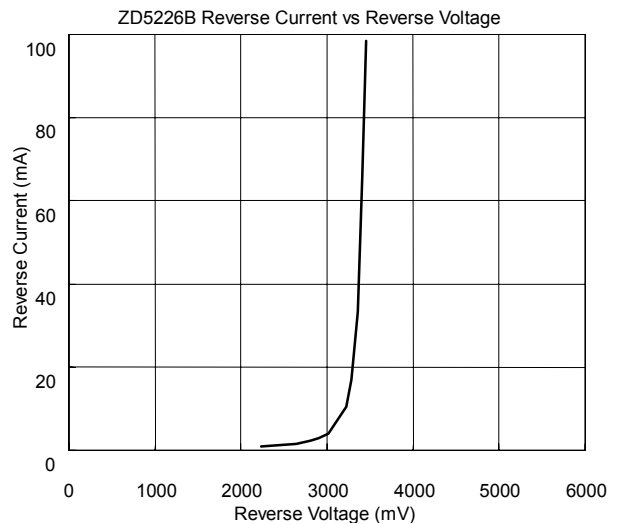
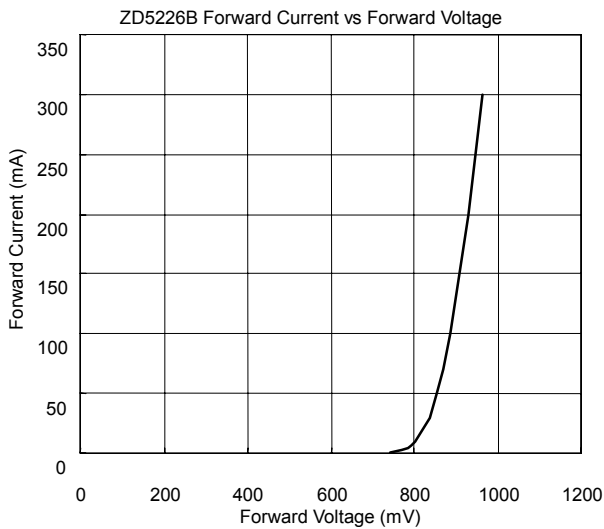
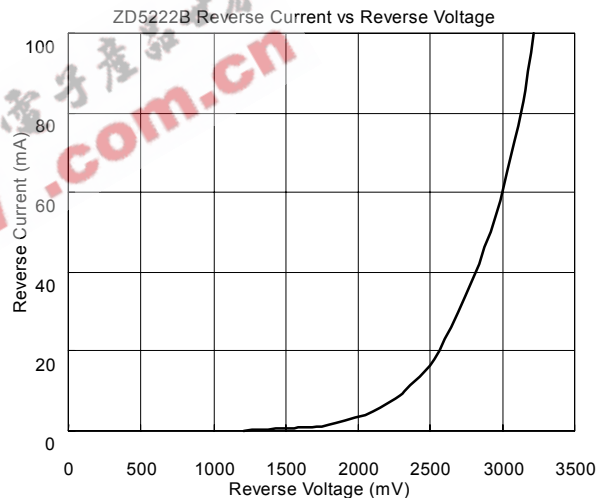
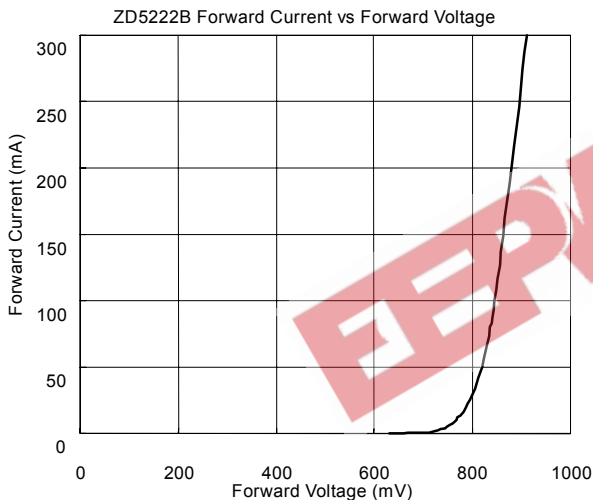
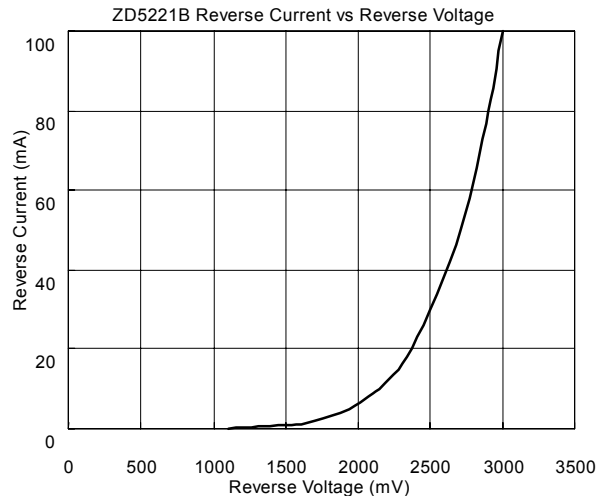
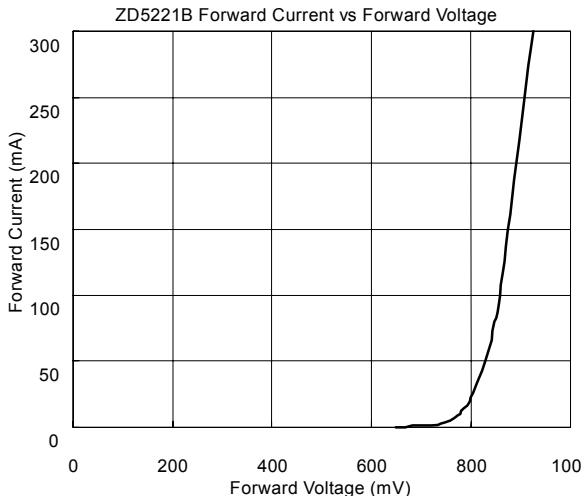


**Electrical Characteristic** (VF=0.9V Max @IF=10mA for all types.)

Device	Marking Code	Test Current IZT(mA)	Zener Voltage VZ(V)	ZZK IZ=0.25mA (Ω,Max)	ZZT IZ=IZT (Ω,Max)	Max. Reverse Current	
						IR(uA)	@VR(V)
ZD5221B	21	20	2.4 ±5%	1200	30	100	1.0
ZD5222B	22	20	2.5 ±5%	1250	30	100	1.0
ZD5223B	23	20	2.7 ±5%	1300	30	75	1.0
ZD5225B	25	20	3.0 ±5%	1600	29	50	1.0
ZD5226B	26	20	3.3 ±5%	1600	28	25	1.0
ZD5227B	27	20	3.6 ±5%	1700	24	15	1.0
ZD5228B	28	20	3.9 ±5%	1900	23	10	1.0
ZD5229B	29	20	4.3 ±5%	2000	22	5.0	1.0
ZD5230B	30	20	4.7 ±5%	1900	19	5.0	2.0
ZD5231B	31	20	5.1 ±5%	1600	17	5.0	2.0
ZD5232B	32	20	5.6 ±5%	1600	11	5.0	3.0
ZD5233B	33	20	6.0 ±5%	1600	7.0	5.0	3.5
ZD5234B	34	20	6.2 ±5%	1000	7.0	5.0	4.0
ZD5235B	35	20	6.8 ±5%	750	5.0	3.0	5.0
ZD5236B	36	20	7.5 ±5%	500	6.0	3.0	6.0
ZD5237B	37	20	8.2 ±5%	500	8.0	3.0	6.5
ZD5238B	38	20	8.7 ±5%	600	8.0	3.0	6.5
ZD5239B	39	20	9.1 ±5%	600	10	3.0	7.0
ZD5240B	40	20	10 ±5%	600	17	3.0	8.0
ZD5241B	41	20	11 ±5%	600	22	2.0	8.4
ZD5242B	42	20	12 ±5%	600	30	1.0	9.1
ZD5243B	43	9.5	13 ±5%	600	13	0.5	9.9
ZD5244B	44	9.0	14 ±5%	600	15	0.1	10
ZD5245B	45	8.5	15 ±5%	600	16	0.1	11
ZD5246B	46	7.8	16 ±5%	600	17	0.1	12
ZD5247B	47	7.4	17 ±5%	600	19	0.1	13
ZD5248B	48	7.0	18 ±5%	600	21	0.1	14
ZD5249B	49	6.6	19 ±5%	600	23	0.1	14
ZD5250B	50	6.2	20 ±5%	600	25	0.1	15
ZD5251B	51	5.6	22 ±5%	600	29	0.1	17
ZD5252B	52	5.2	24 ±5%	600	33	0.1	18
ZD5253B	53	5.0	25 ±5%	600	35	0.1	19
ZD5254B	54	4.6	27 ±5%	600	41	0.1	21
ZD5255B	55	4.5	28 ±5%	600	44	0.1	21
ZD5256B	56	4.2	30 ±5%	600	49	0.1	23
ZD5257B	57	3.8	33 ±5%	700	58	0.1	25

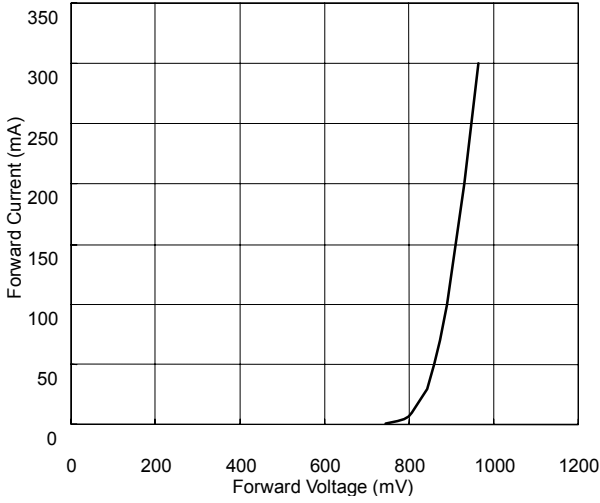


### Characteristic Curves

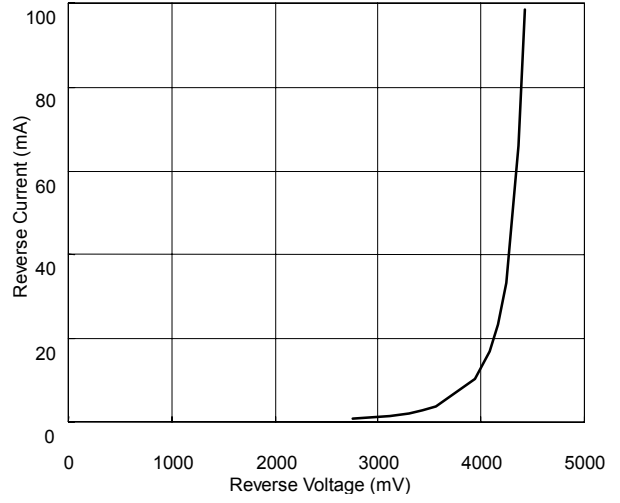




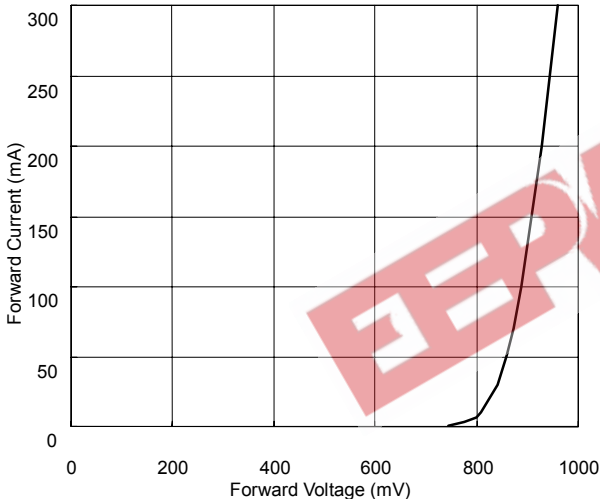
ZD5228B Forward Current vs Forward Voltage



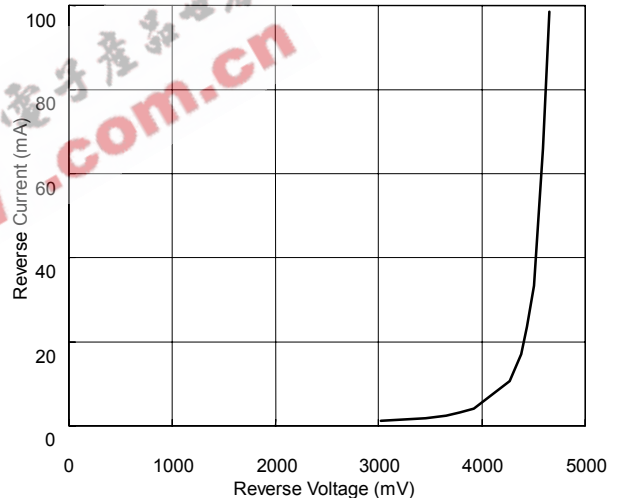
ZD5228B Reverse Current vs Reverse Voltage



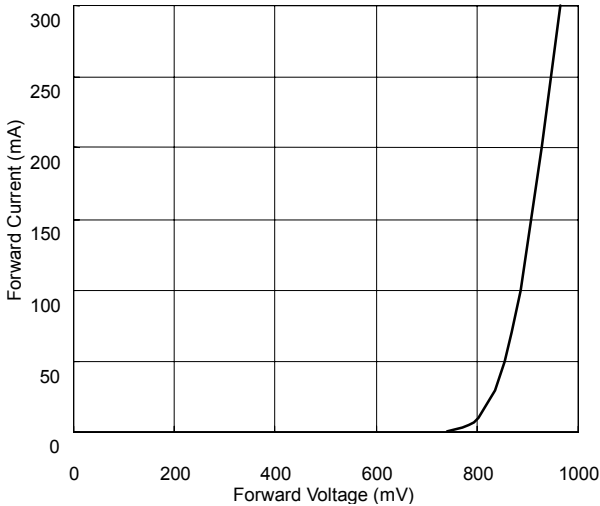
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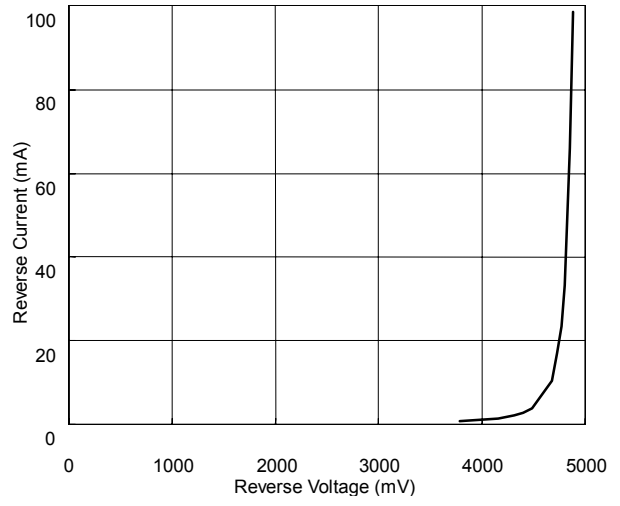
ZD5229B Reverse Current vs Reverse Voltage



ZD5230B Forward Current vs Forward Voltage

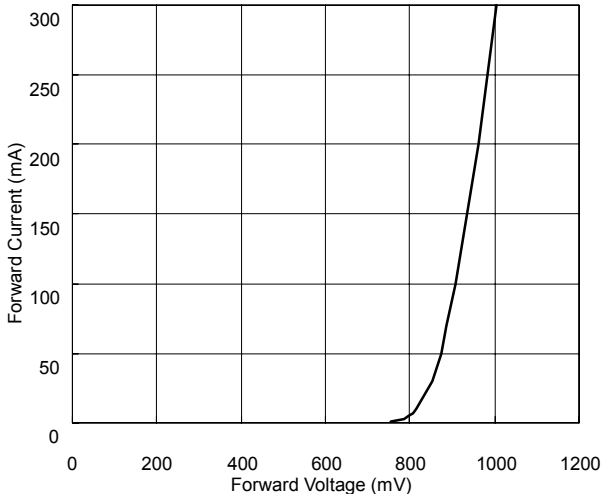


ZD5230B Reverse Current vs Reverse Voltage

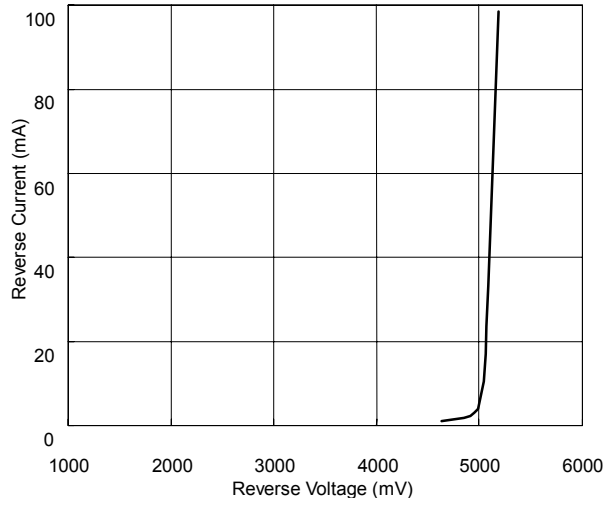




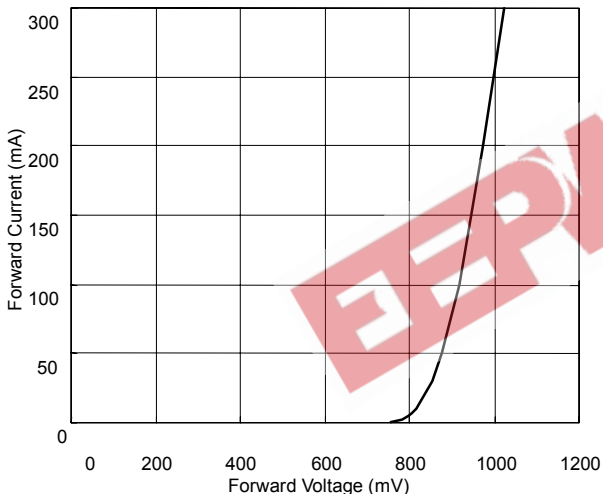
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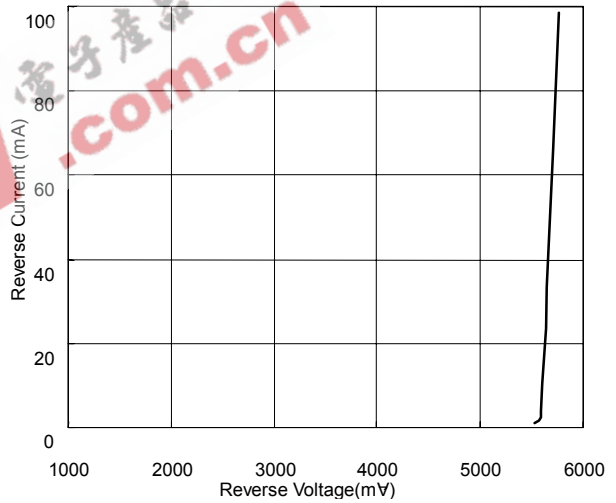
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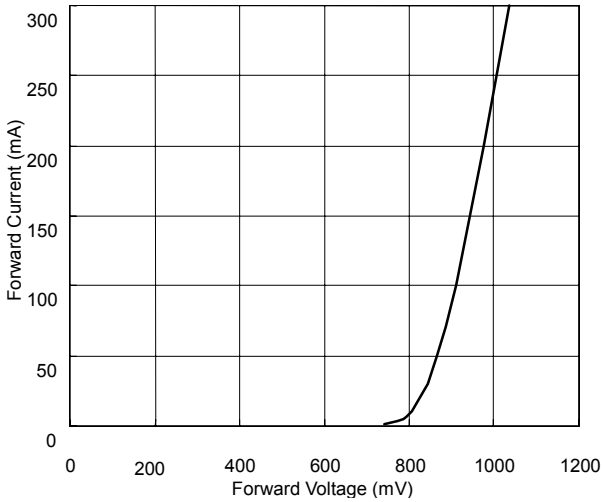
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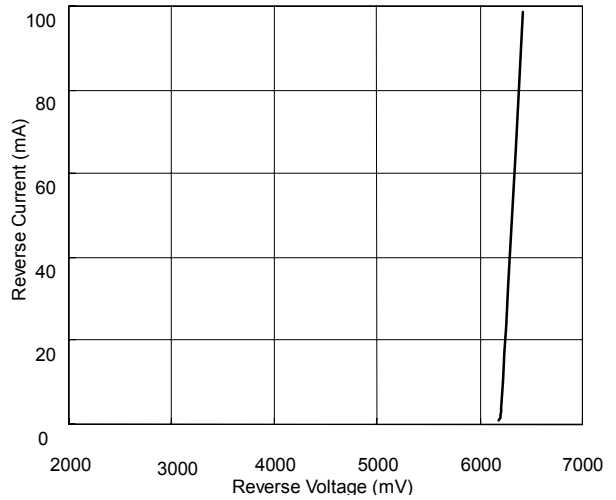
ZD5232B Reverse Current vs Reverse Voltage



ZD5233B Forward Current vs Forward Voltage

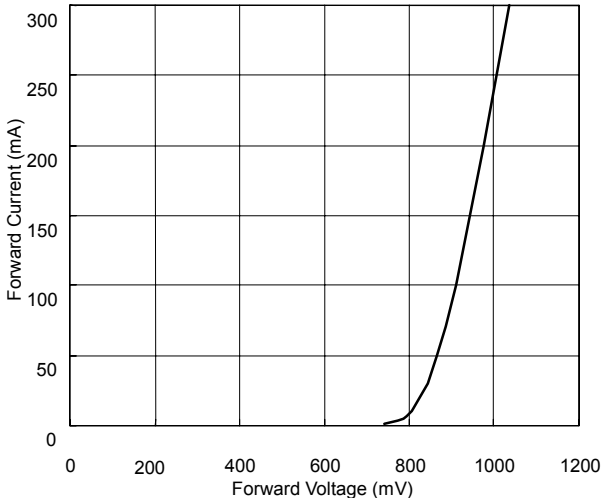


ZD5233B Reverse Current vs Reverse Voltage

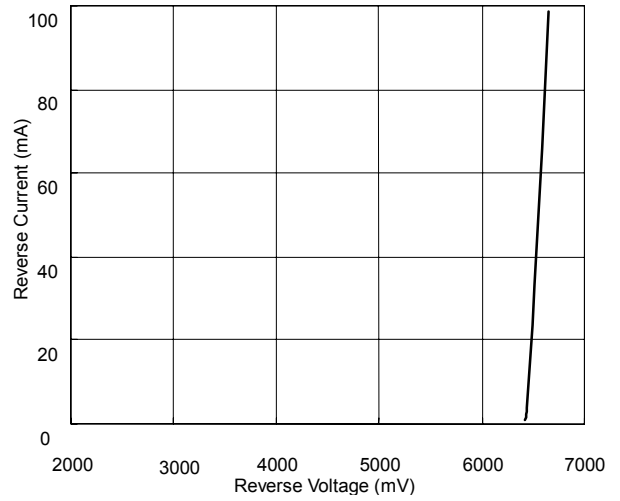




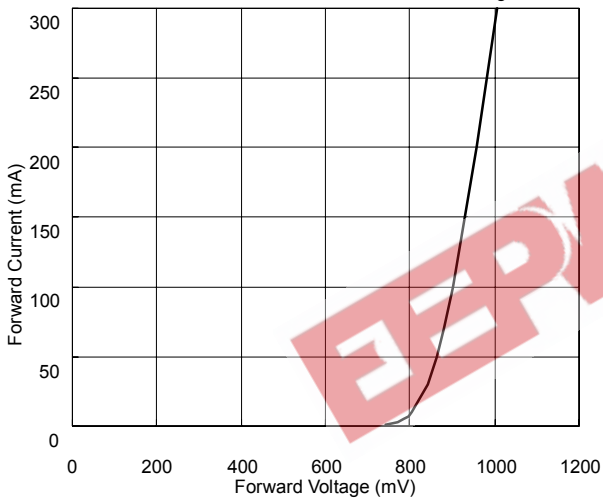
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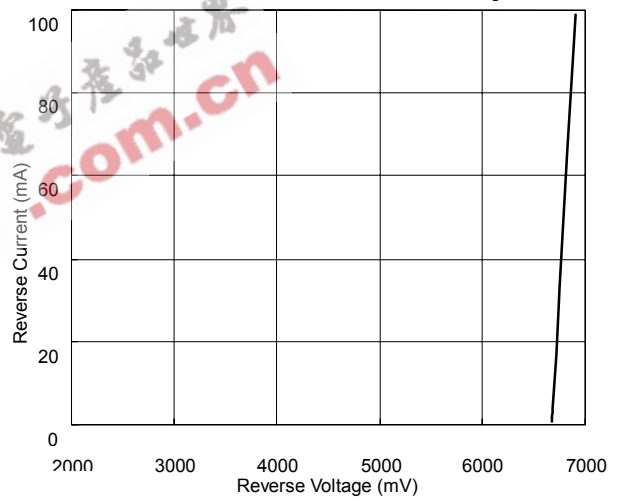
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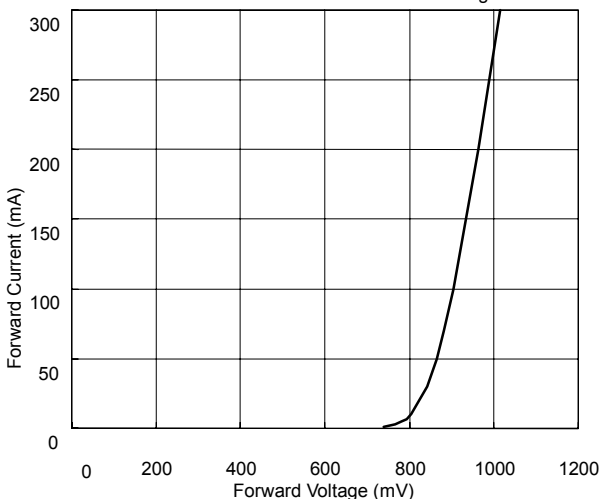
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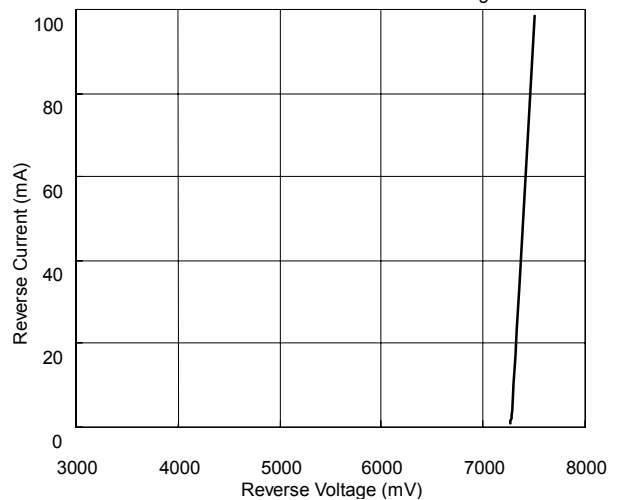
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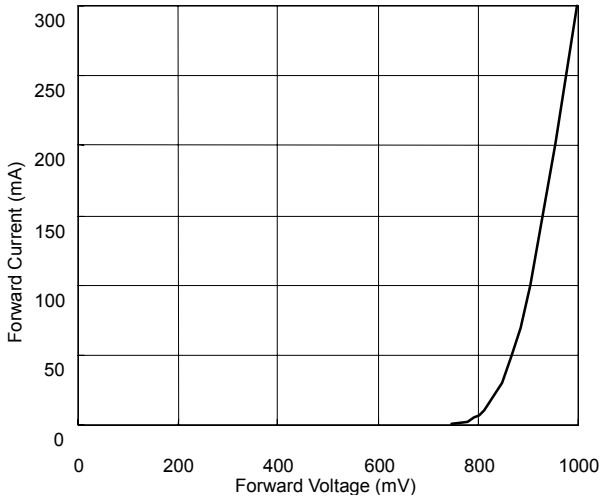


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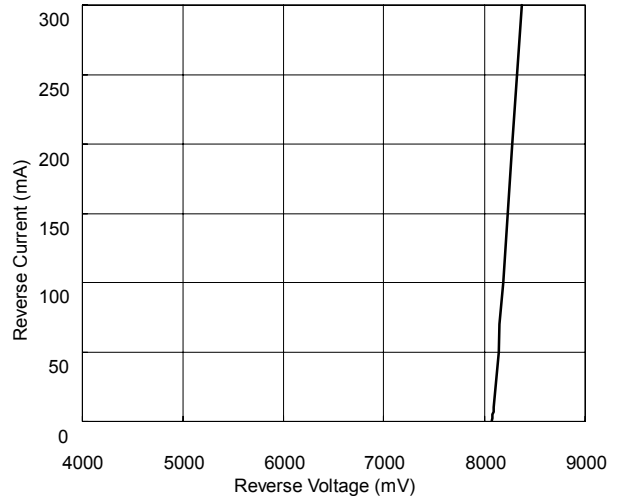




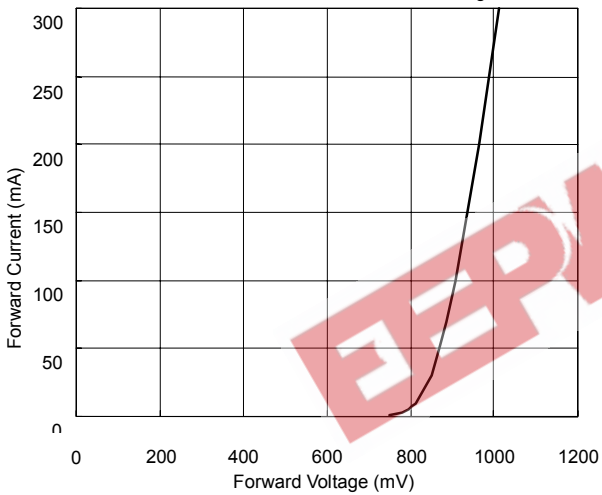
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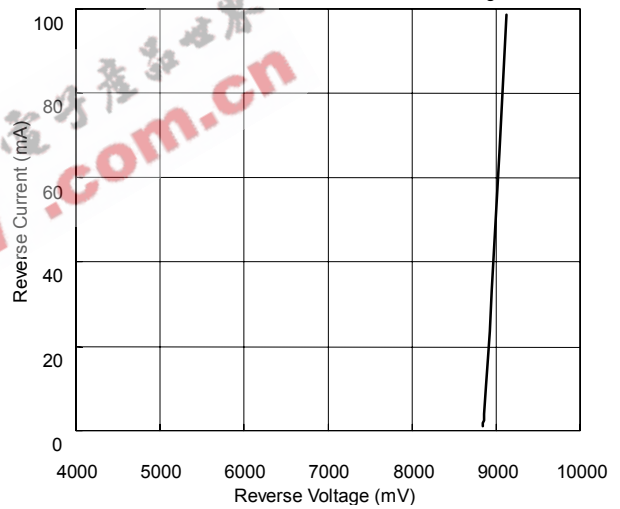
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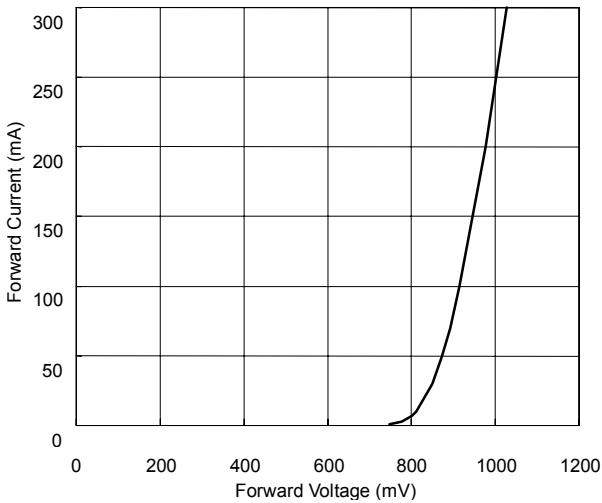
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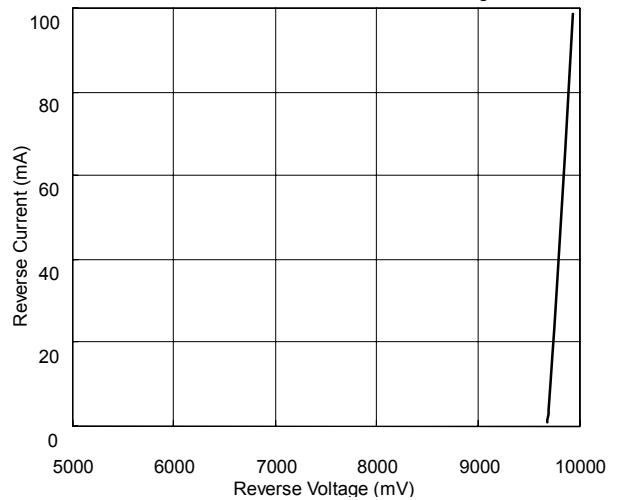
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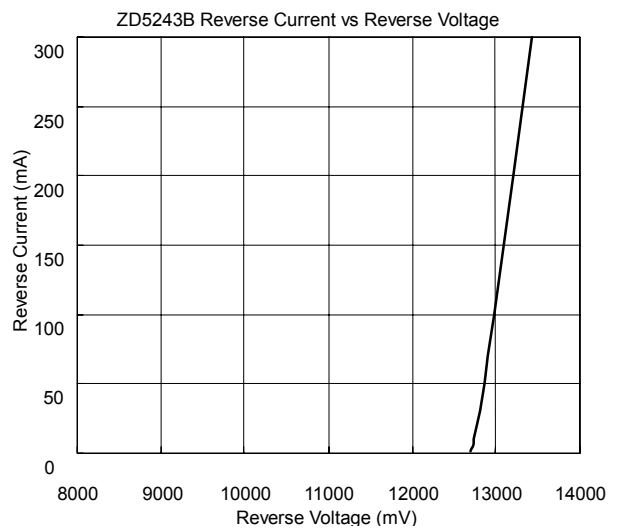
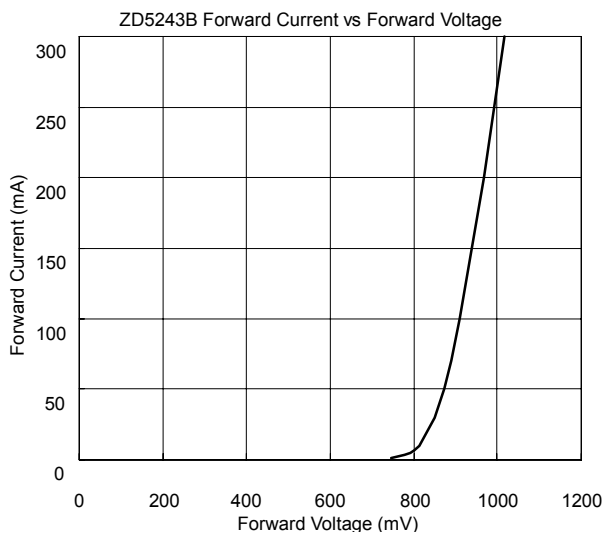
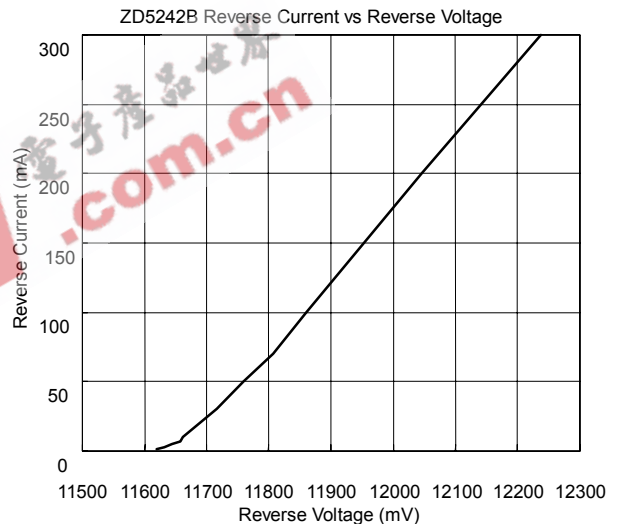
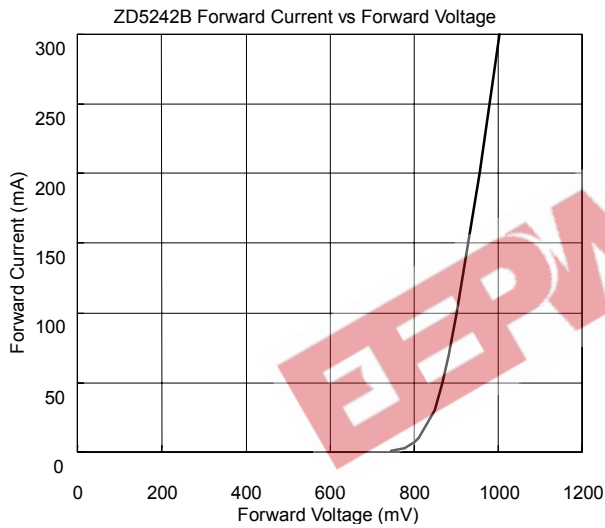
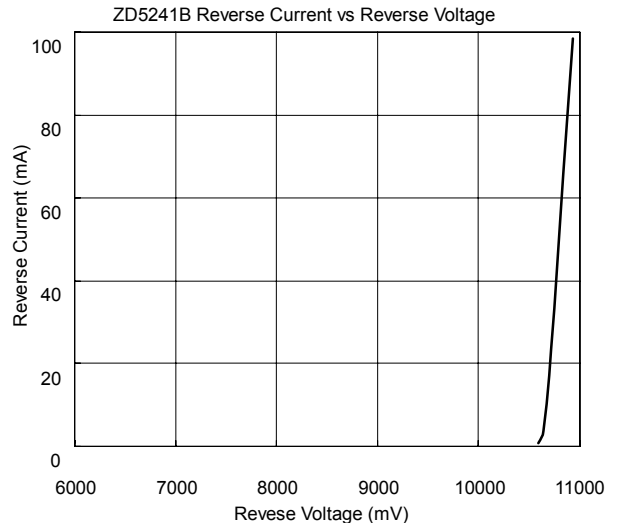
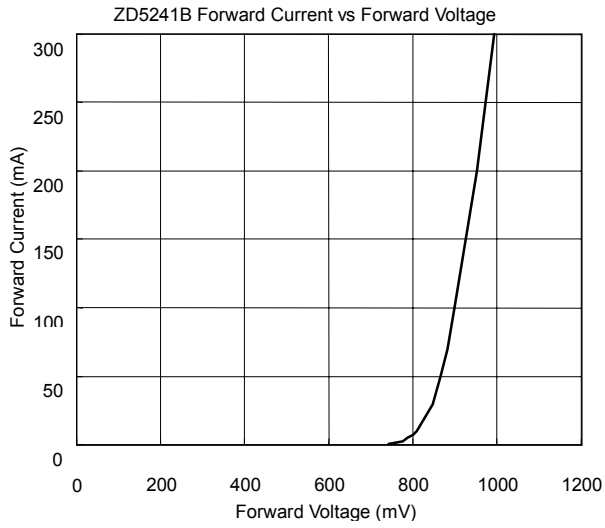


ZD5240B Forward Current vs Forward Voltage

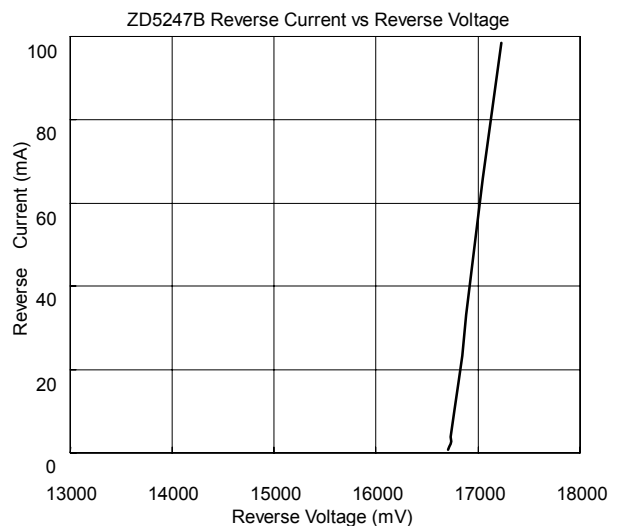
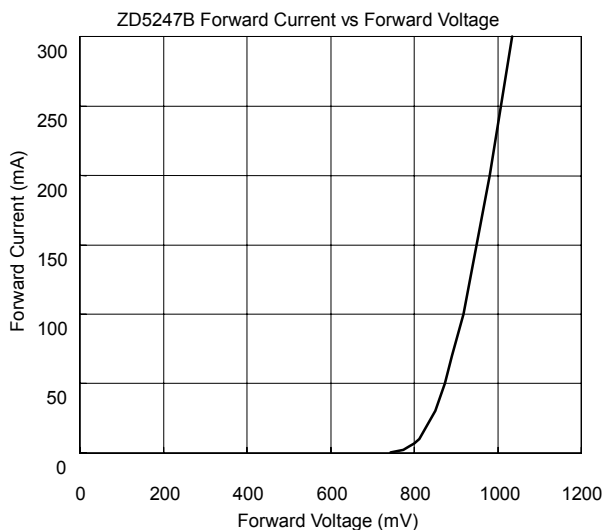
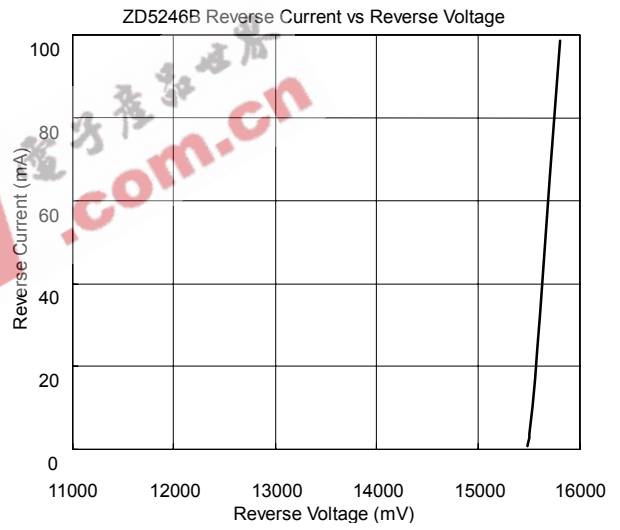
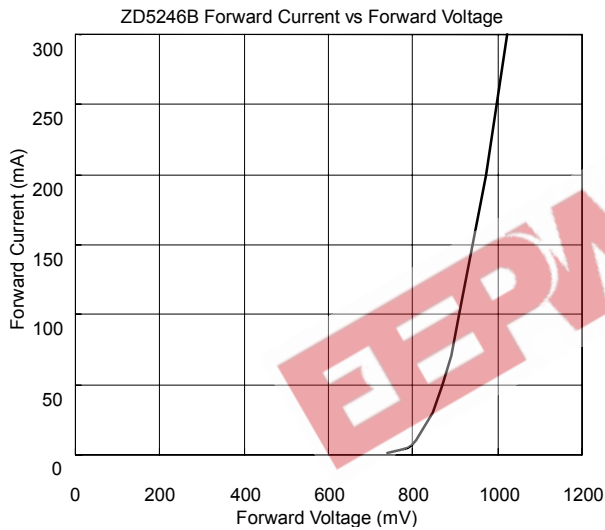
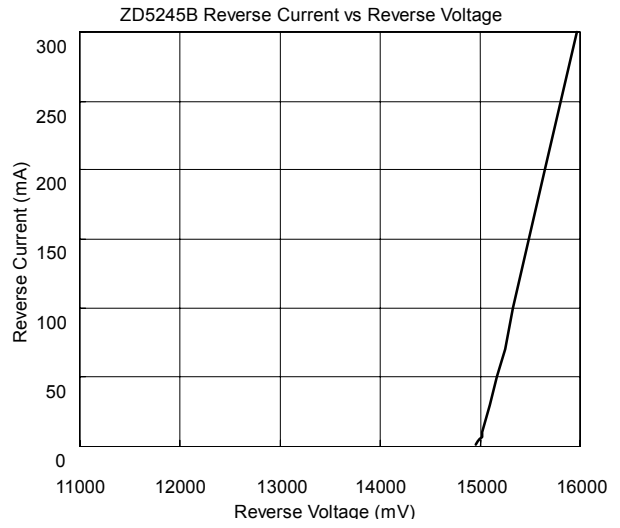
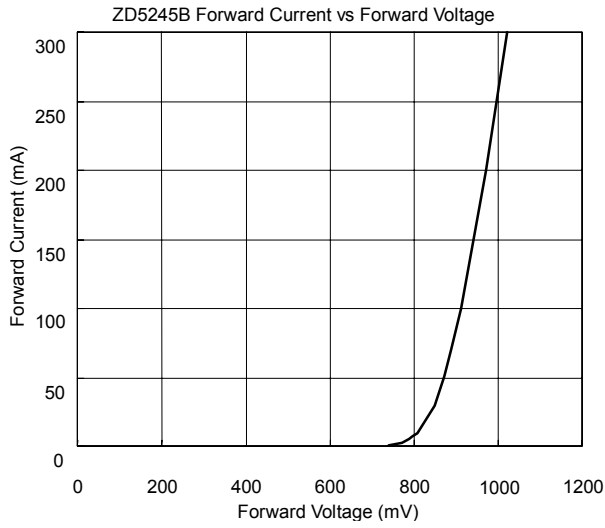


ZD5240B Reverse Current vs Reverse Voltage



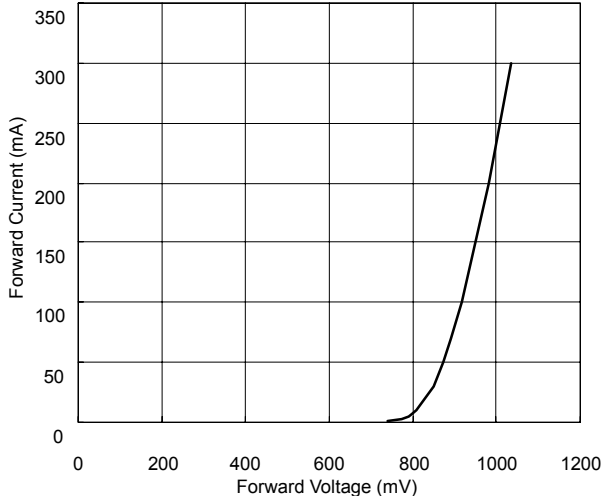




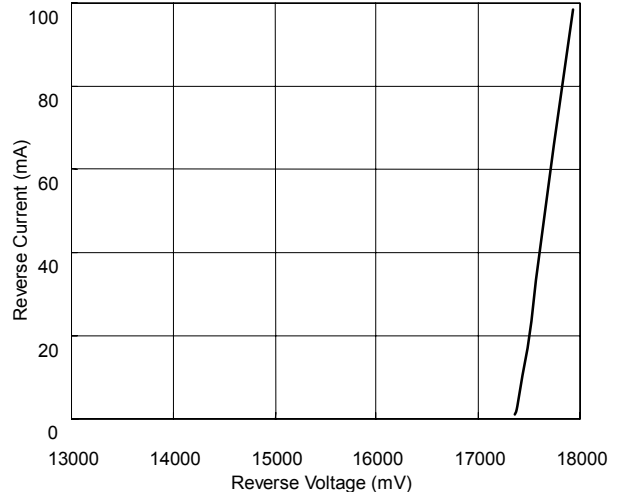




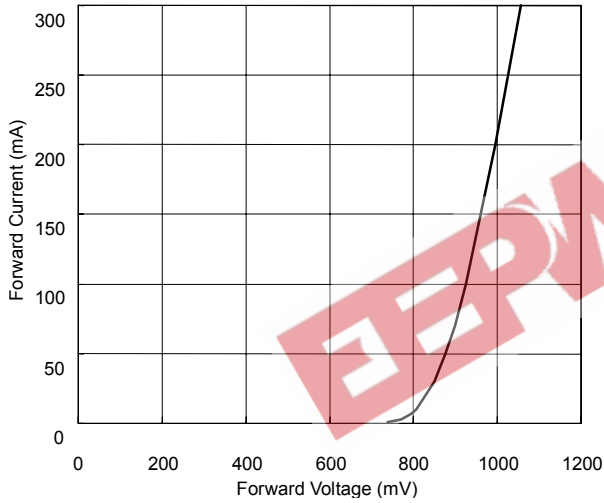
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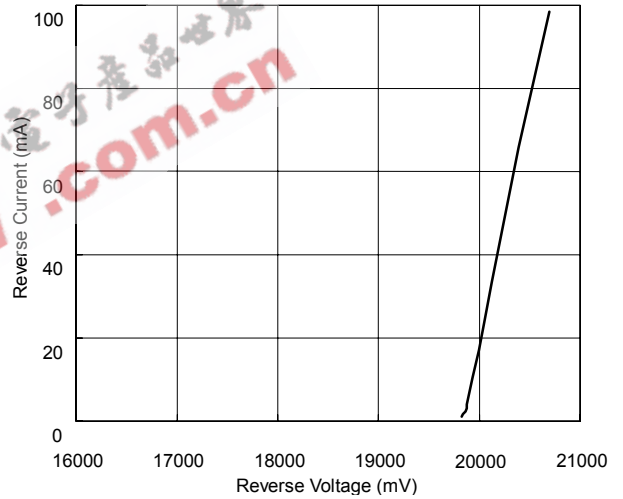
ZD5248B Reverse Current vs Reverse Voltage



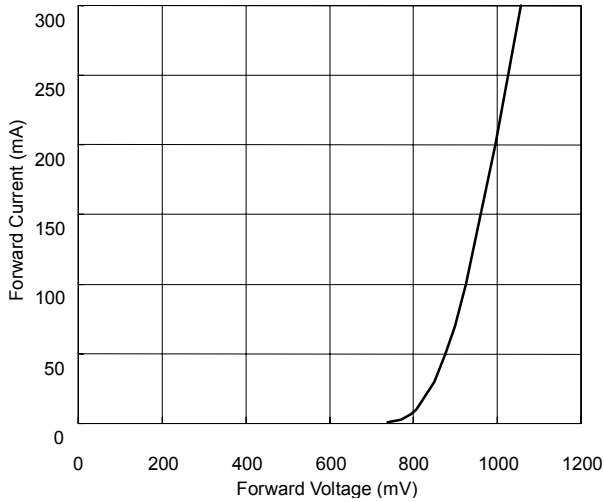
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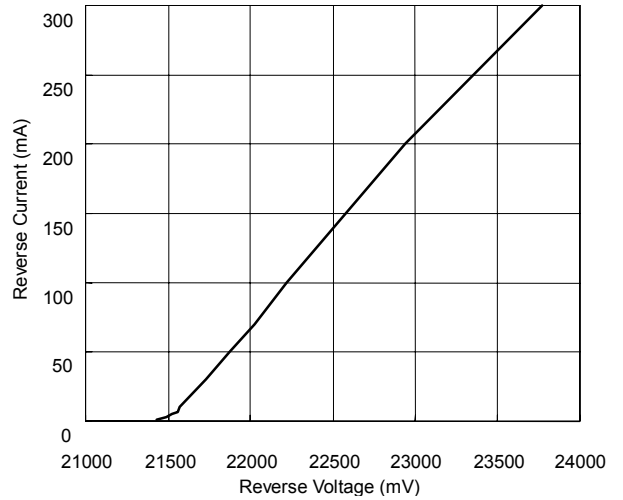
ZD5250B Reverse Current vs Reverse Voltage



ZD5251B Forward Current vs Forward Voltage

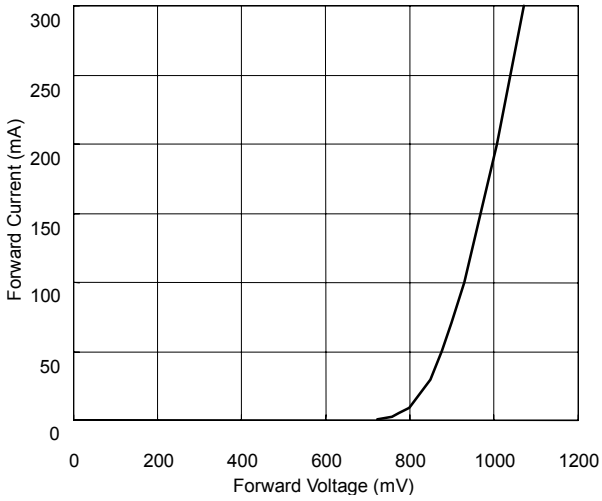


ZD5251B Reverse Current vs Reverse Voltage

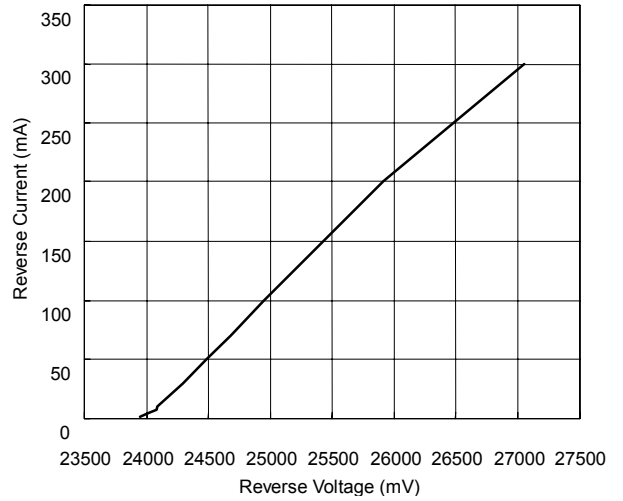




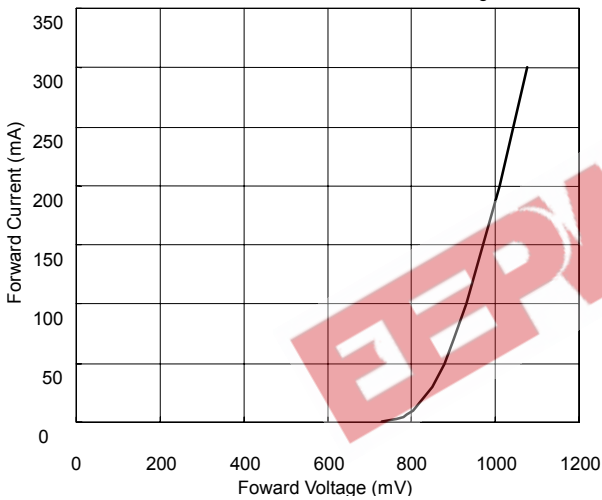
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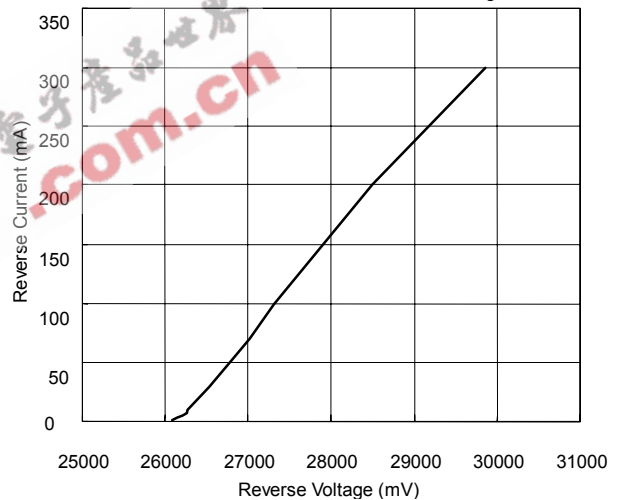
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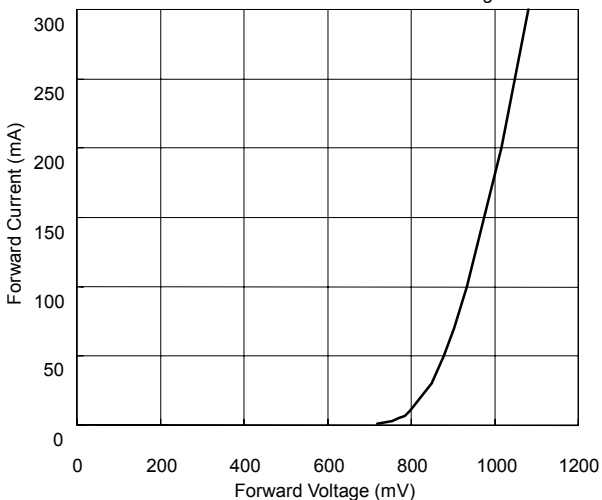
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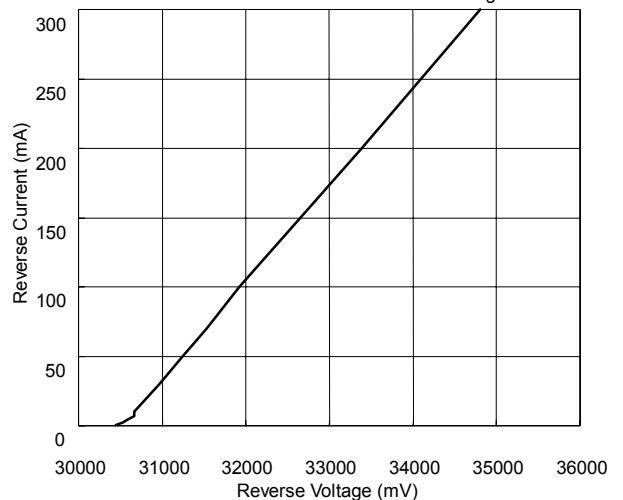
ZD5254B Reverse Current vs Reverse Voltage

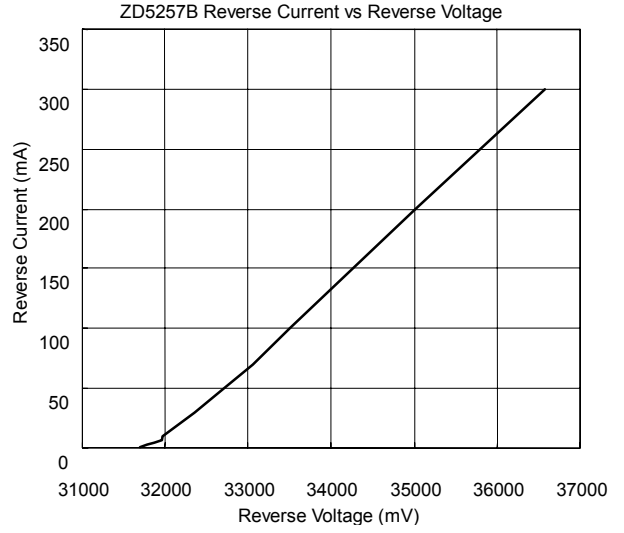
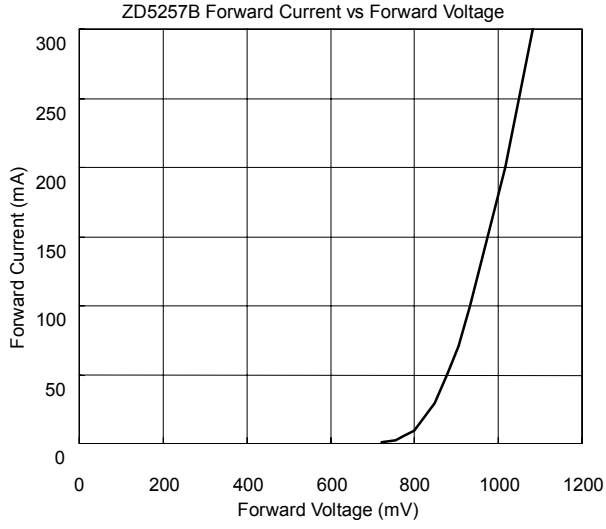


ZD5256B Forward Current vs Forward Voltage



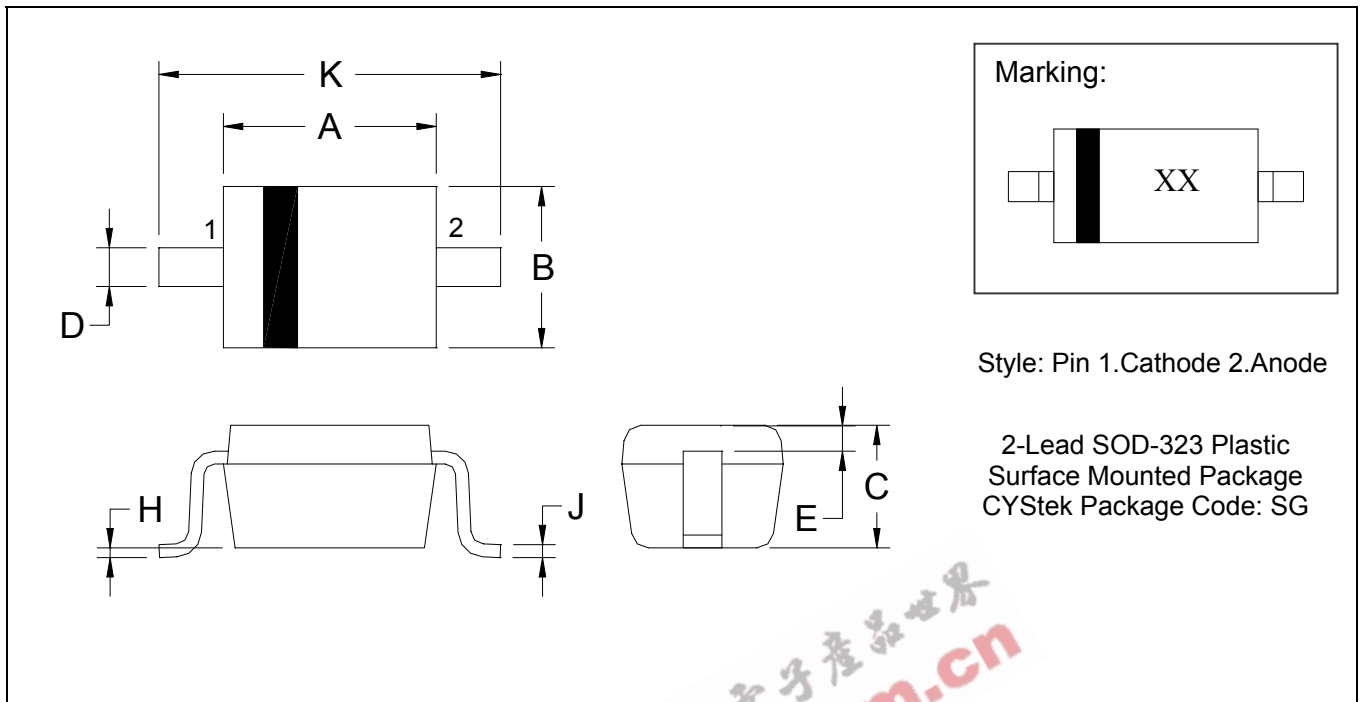
ZD5256B Reverse Current vs Reverse Voltage





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**SOD-323 Dimension**



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0630	0.0709	1.60	1.80	E	0.0060	-	0.15	-
B	0.0453	0.0531	1.15	1.35	H	0.0000	0.0040	0.00	0.10
C	0.0315	0.0394	0.80	1.00	J	0.0035	0.0070	0.089	0.177
D	0.0098	0.0157	0.25	0.40	K	0.0906	0.1063	2.30	2.70

- Notes: 1.Controlling dimension : millimeters.  
 2.Lead thickness specified per L/F drawing with solder plating.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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