

ZTK6.8 to ZTK33 (TAA550)

MONOLITHIC TEMPERATURE COMPENSATED ZENER DIODE

Monolithic linear integrated circuits producing an extremely constant temperature-compensated voltage, particularly suitable for stabilizing the tuning voltage in television and radio tuners employing capacitance diodes. The effects of differential resistance and temperature coefficient on stabilized voltage are very small compared to those of conventional Zener diodes and a high stability circuit can be achieved using fewer additional components.

MAXIMUM RATINGS

Zener Current	@ $T_{amb} = 45^{\circ}C$		@ $T_c = 45^{\circ}C$
		with heat sink	
ZTK 6.8 I _z	36	60	90 mA
ZTK 9 I _z	27	38	63 mA
ZTK 11 I _z	19	31	53 mA
ZTK 18 I _z	13	19	32 mA
ZTK 22 I _z	10	16	27 mA
ZTK 27 I _z	8	13	22 mA
ZTK 33 I _z (TAA550)	7	11	19 mA

Junction temperature T_j $150^{\circ}C$

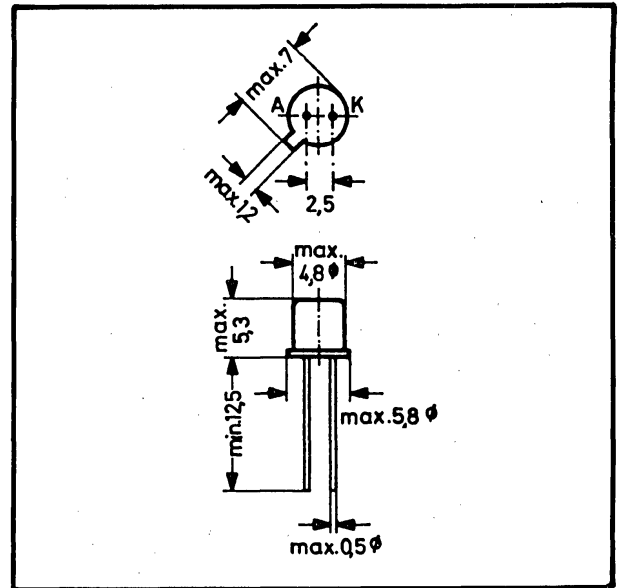
Storage temperature range T_s -20 to $+150^{\circ}C$

(T_c = Case Temperature)

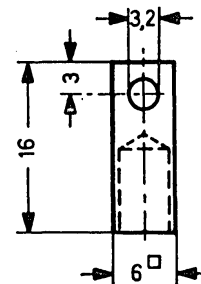
CHARACTERISTICS @ $T_{amb} = 25^{\circ}C$

Type	Zener voltage @ $I_z = 5mA$ V_z	Dynamic resistance @ $I_z = 5mA$ r_{zi}
ZTK 6.8	6.5 to 7.2	10 (<25)
ZTK 9	8 to 10	10 (<25)
ZTK 11	10 to 12	10 (<25)
ZTK 18	16 to 20	11 (<25)
ZTK 22	20 to 24	11 (<25)
ZTK 27	24 to 30	12 (<25)
ZTK 33 (TAA550)	30 to 36	12 (<25)

a_{vz} Temperature coefficient of Zener voltage
@ $I_z = 5mA$
 $\pm 0.5mA$ $-2(-10$ to $+5)10$
 $-5^{\circ}C$



Metal case JEDEC TO-18 Weight approximately 0.3 g Cathode connected to case. Dimensions in mm.



Accessory—A heat sink, Order No. 00409, will be delivered on request. Dimensions in mm.

Thermal resistance
 R_{thC} Junction to case $0.15^{\circ}C/mW$
 R_{thA} Junction to ambient air .. $0.4^{\circ}C/mW$
 R_{thA} Junction to ambient air with heat sink $0.25^{\circ}C/mW$

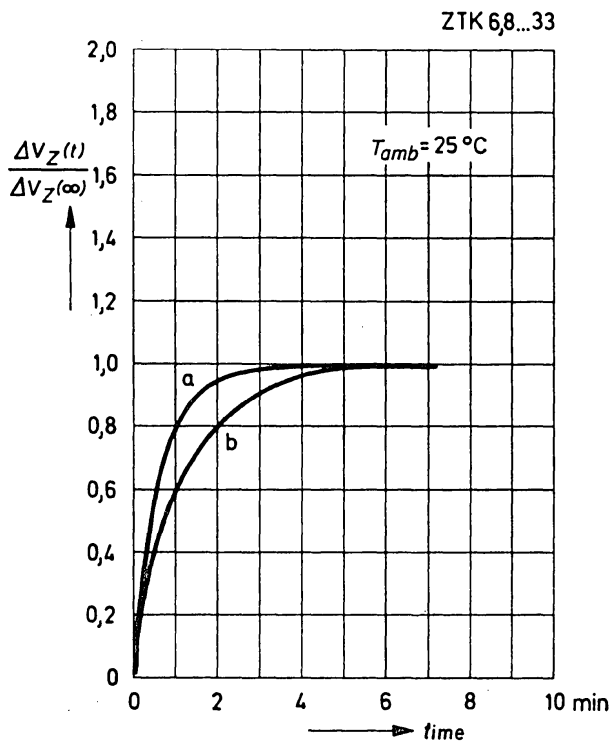
ZTK 6.8 to ZTK 33

Relative change of ΔV_z versus time starting at turn-on
 a) without
 b) with heat sink No. 00409

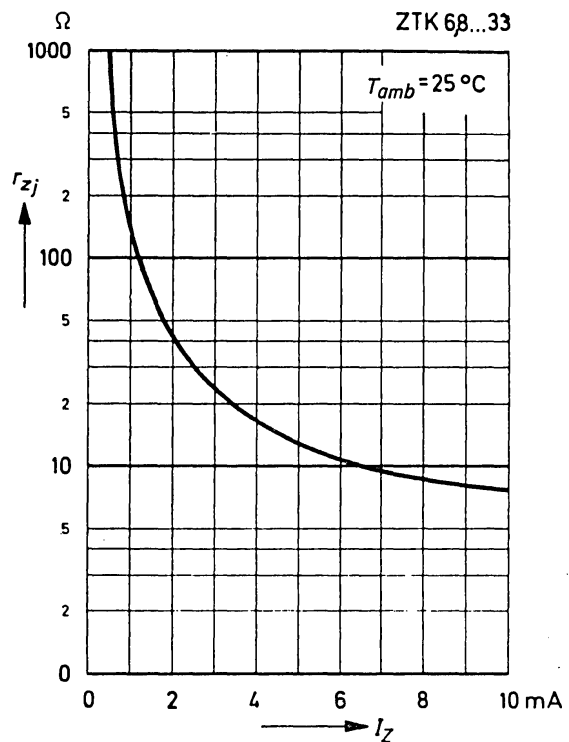
Dynamic resistance versus Zener current

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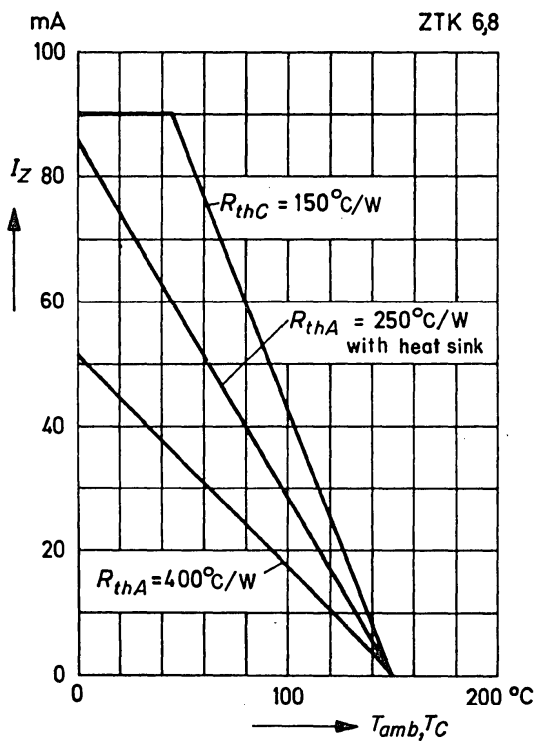
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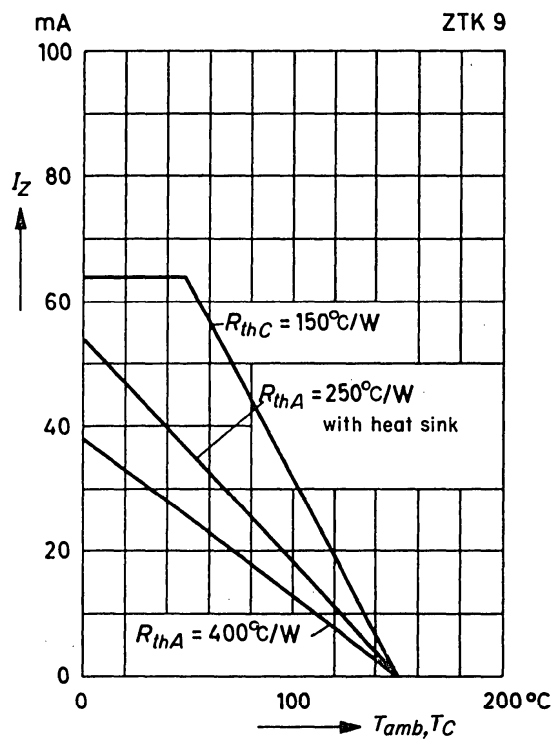
Admissible Zener current versus temperature



Admissible Zener current versus temperature



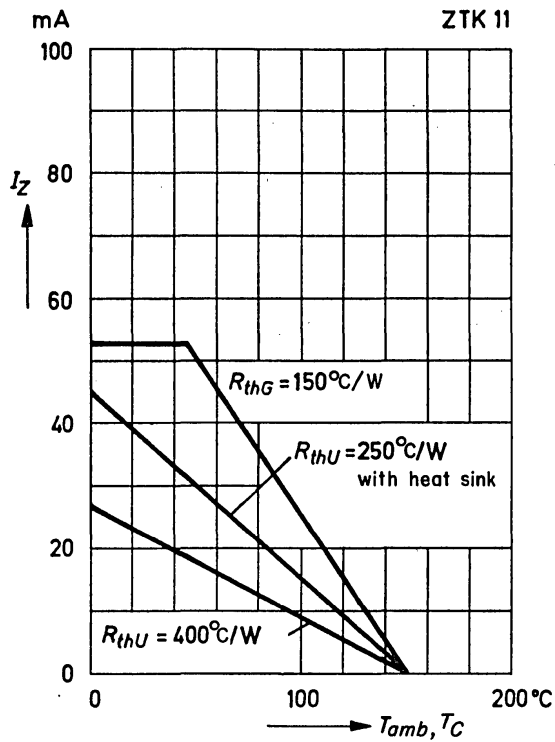
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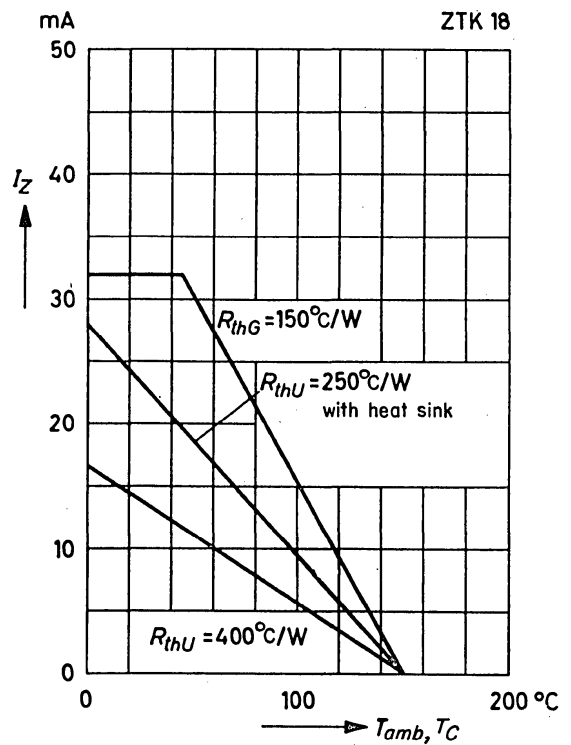
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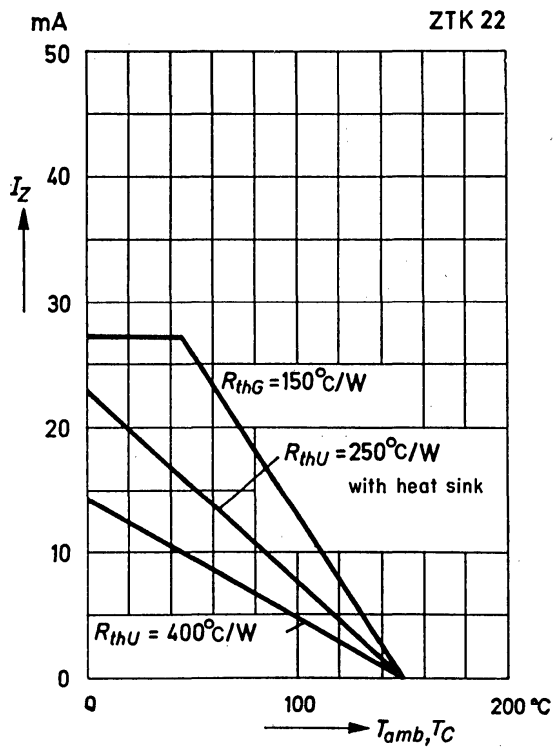
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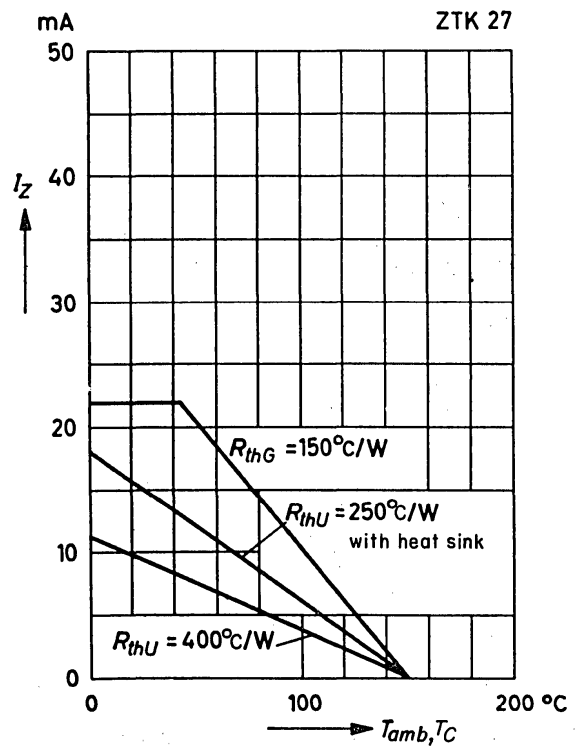
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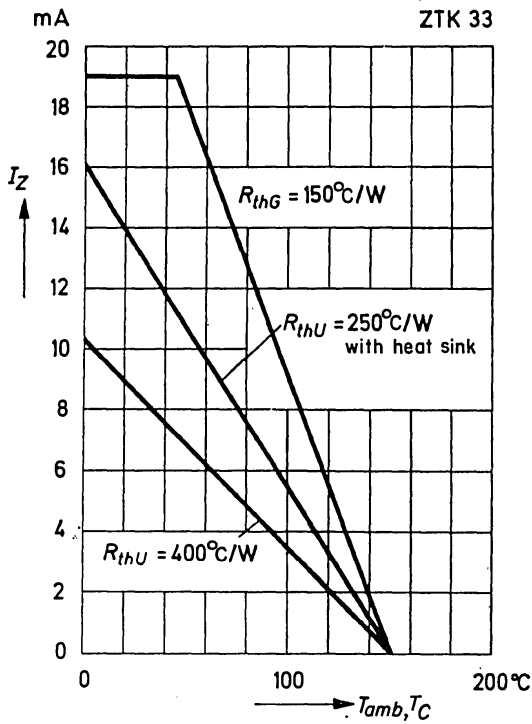
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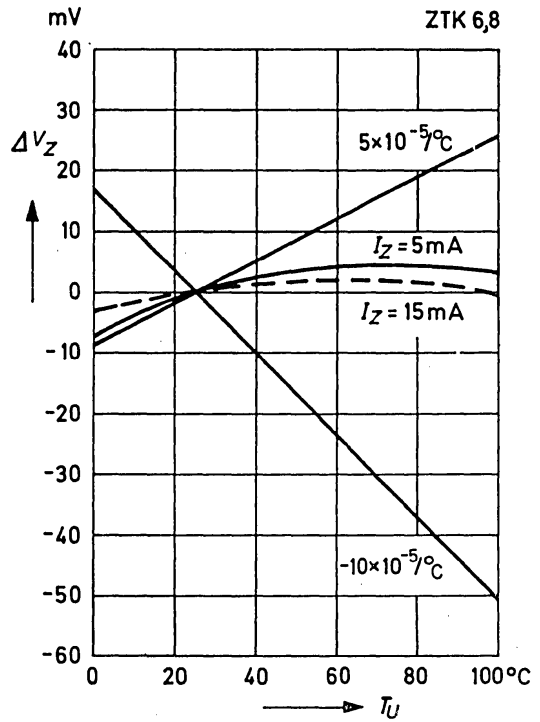
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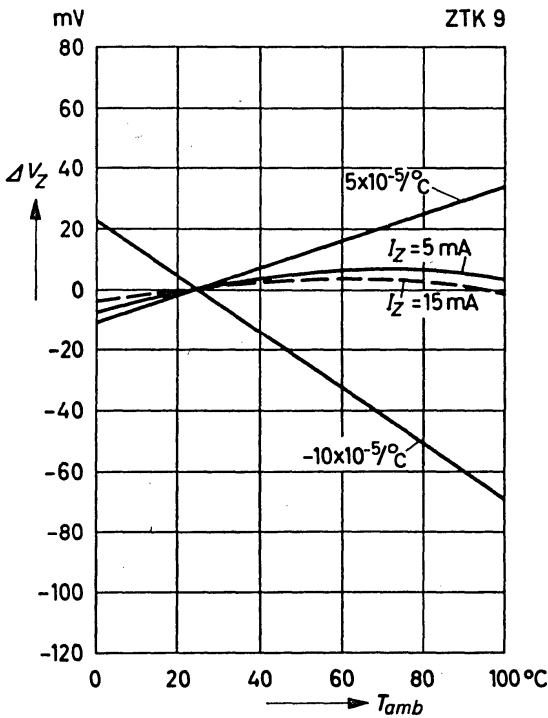
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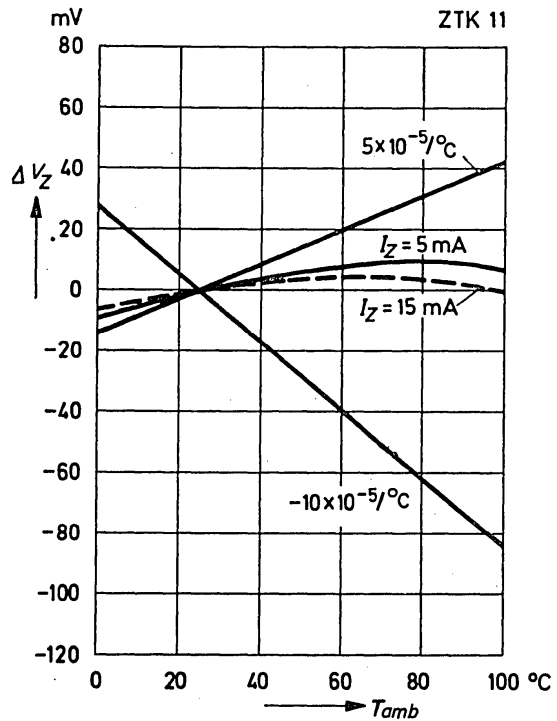
Change of Zener voltage versus ambient temperature



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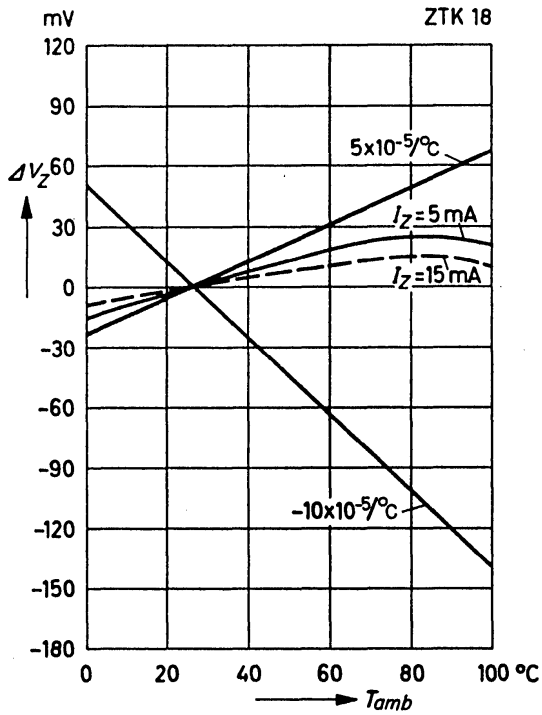
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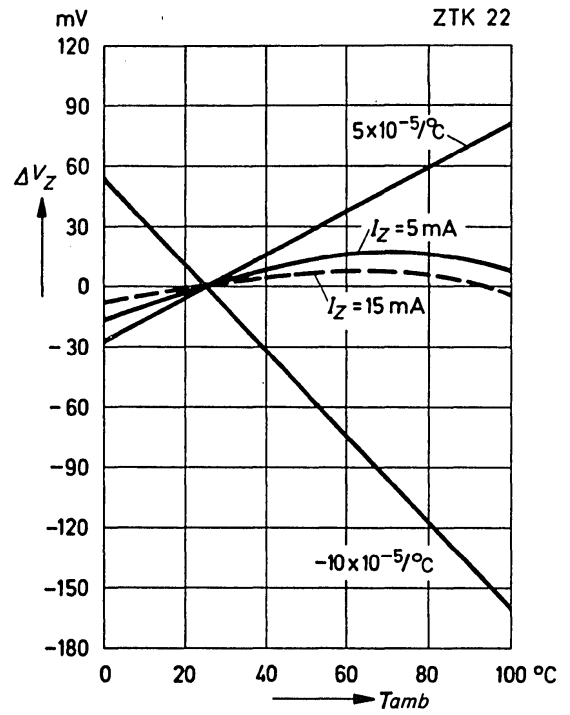
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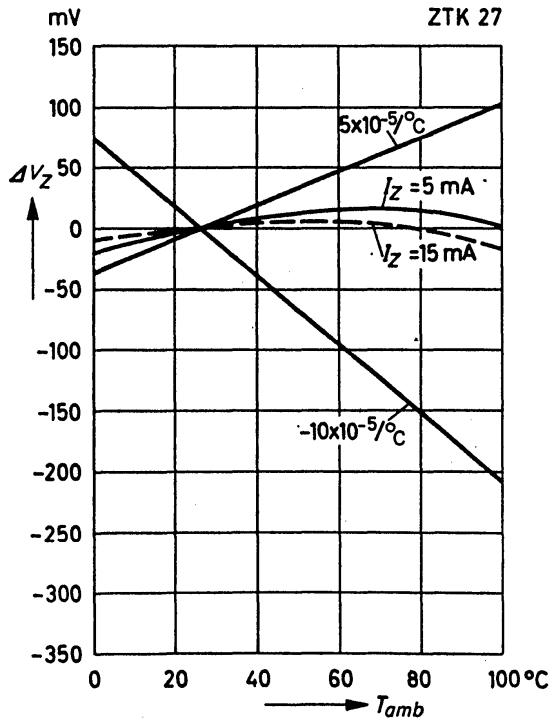
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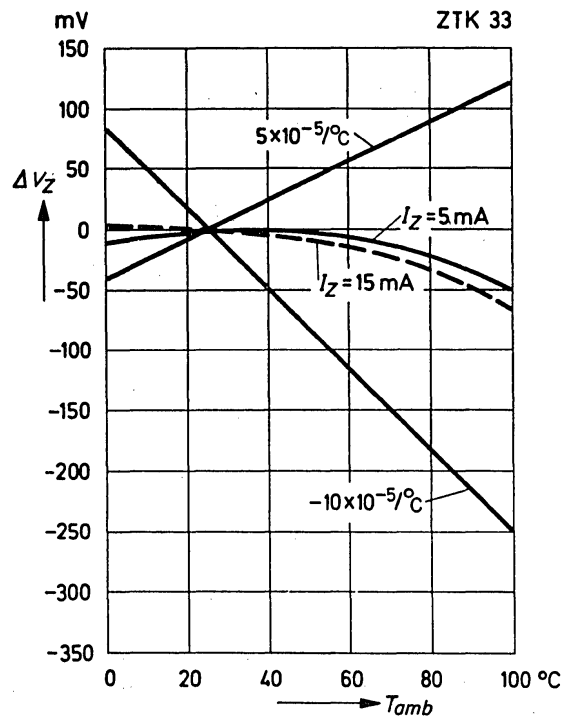
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