



**THE DATASHEET OF
ZR40402N850TA**



ZR4040-5.0

ABSOLUTE MAXIMUM RATING

Reverse Current	25mA
Forward Current	25mA
Operating Temperature	-40 to 85°C
Storage Temperature	-55 to 125°C

Power Dissipation (T_{amb}=25°C)

SOT23	330mW
SO8	625mW
E-Line, 3 pin (TO92)	500mW

ELECTRICAL CHARACTERISTICS

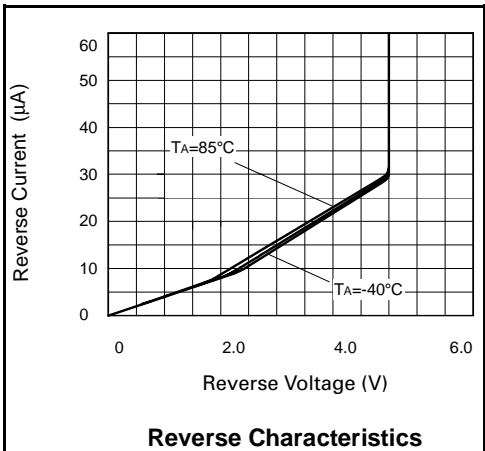
TEST CONDITIONS (Unless otherwise stated) T_{amb}=25°C

SYMBOL	PARAMETER	CONDITIONS	LIMITS			TOL. %	UNITS
			MIN	TYP	MAX		
V _R	Reverse Breakdown Voltage	I _R =150μA	4.95 4.90	5.0 5.0	5.05 5.10	1 2	V
I _{MIN}	Minimum Operating Current			30	60		μA
I _R	Recommended Operating Current		0.06		15		mA
T _C †	Average Reverse Breakdown Voltage Temp. Co.	I _{R(min)} to I _{R(max)}		20	100		ppm/°C
R _S §	Slope Resistance			0.33	1.5		Ω
Z _R	Reverse Dynamic Impedance	I _R = 1mA f = 100Hz I _{AC} =0.1 I _R		0.4	1.0		Ω
E _N	Wideband Noise Voltage	I _R = 1mA f = 10Hz to 10kHz		105			μV (rms)

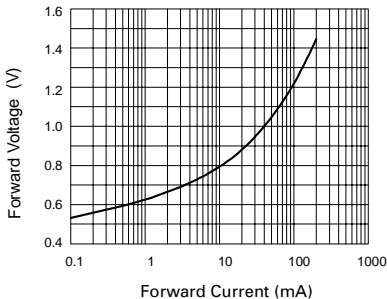
$$\dagger T_C = \frac{(V_{R(max)} - V_{R(min)}) \times 1000000}{V_R \times (T_{(max)} - T_{(min)})}$$

Note: V_{R(max)} - V_{R(min)} is the maximum deviation in reference voltage measured over the full operating temperature range.

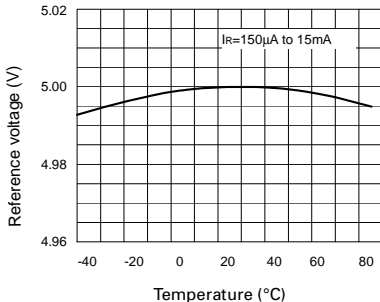
$$\S R_S = \frac{V_R \text{ Change}(I_R(min) \text{ to } I_R(max))}{I_R(max) - I_R(min)}$$



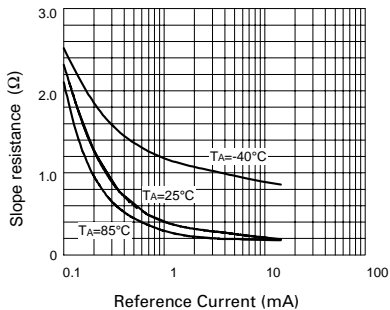
TYPICAL CHARACTERISTICS



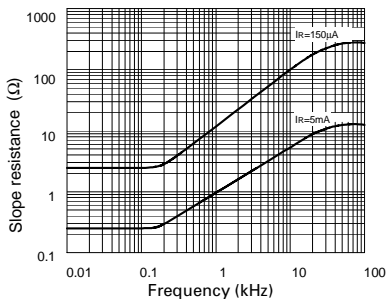
Forward Characteristics



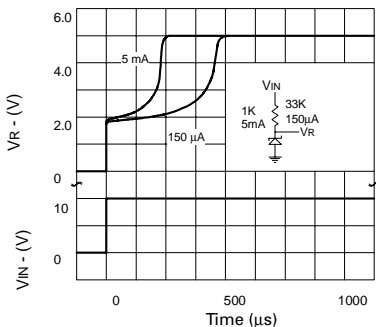
Temperature Drift



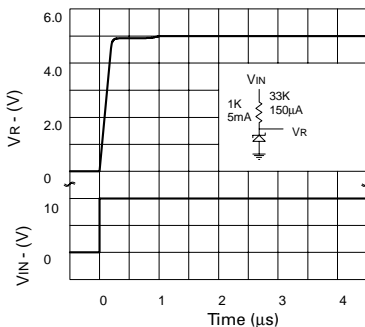
Slope Resistance v Current



Slope Resistance v Frequency



**Transient Response
(Single Pulse)**

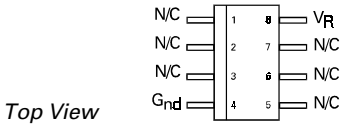


**Transient Response
(Repetitive Pulse)**

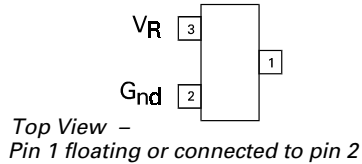
ZR4040-5.0

CONNECTION DIAGRAMS

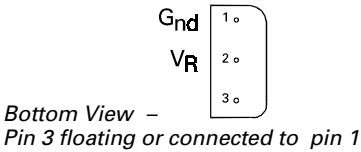
SO8 Package Suffix – N8



SOT23 Package Suffix – F



E-Line, 3 pin, Rev Package Suffix – R





ORDERING INFORMATION

Part Number	Tol%	Package	Partmark
ZR40402F50	2	SOT23	50L
ZR40401F50	1	SOT23	50M
ZR40402N850	2	SO8	ZR4040250
ZR40401N850	1	SO8	ZR4040150
ZR40402R50	2	E-Line *	ZR4040250
ZR40401R50	1	E-Line *	ZR4040150







* E-Line, 3 pin Reversed

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