

Programmable Precision Reference

Features:

- Programmable output Voltage to 36 V
- Low dynamic output impedance
- Sink current capability of 1 to 100 mA
- Low output noise voltage
- Fast turn on response



1.Cathode 2.Reference 3.Anode
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Cathode Voltage	V_{KA}	37	V
Cathode Current Range (Continuous)	I_{KA}	- 100 to + 150	mA
Reference Input Current Range	I_{REF}	- 0.05 to + 10	mA
Power Dissipation	P_D	350	mW
Operating Temperature Range	T_{opr}	- 25 to + 85	$^{\circ}\text{C}$
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

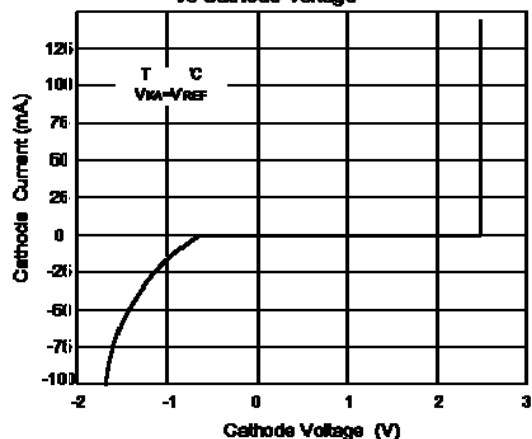
Recommended Operating Conditions

Parameter	Symbol	Min.	Max.	Unit
Cathode Voltage	V_{KA}	V_{REF}	36	V
Cathode Current	I_{KA}	1	100	mA

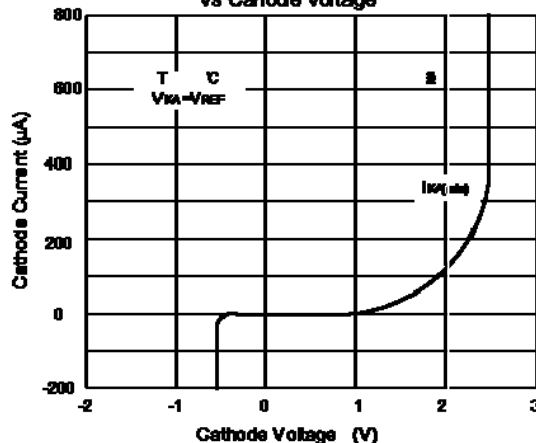
Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reference Input Voltage at $V_{KA} = V_{REF}$, $I_{KA} = 10\text{ mA}$	V_{REF}	2.483	2.495	2.507	V
Reference Input Voltage at $V_{KA} = V_{REF}$, $I_{KA} = 10\text{ mA}$	V_{REF}	2.47	2.495	2.52	V
Reference Input Voltage at $V_{KA} = V_{REF}$, $I_{KA} = 10\text{ mA}$	V_{REF}	2.445	2.495	2.545	V
Deviation of Reference Input Voltage Over Temperature at $V_{KA} = V_{REF}$, $I_{KA} = 10\text{ mA}$, $-25\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$	$\Delta V_{REF}/\Delta T$	-	4.5	17	mV
Ratio of Change in Reference Input Voltage to the Change in Cathode Voltage at $I_{KA} = 10\text{ mA}$	$\Delta V_{REF}/\Delta V_{KA}$	-	-1.0 -0.5	-2.7 -2	mV/V
Reference Input Current at $I_{KA} = 10\text{ mA}$, $R_1 = 10\text{ K}\Omega$, $R_2 = \infty$	I_{REF}	-	1.5	4	μA
Deviation of Reference Input Current Over Full Temperature at $I_{KA} = 10\text{ mA}$, $R_1 = 10\text{ K}\Omega$, $R_2 = \infty$, $-25\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$	$\Delta I_{REF}/\Delta T$	-	0.4	1.2	μA
Minimum Cathode Current for Regulation at $V_{KA} = V_{REF}$	$I_{KA(min)}$	-	0.45	1	mA
Off-Stage Cathode Current at $V_{KA} = 36\text{ V}$, $V_{REF} = 0$	$I_{KA(OFF)}$	-	0.05	1	μA
Dynamic Impedance at $V_{KA} = V_{REF}$, $I_{KA} = 1\text{ to }100\text{ mA}$, $f \leq 1\text{ KHz}$	Z_{KA}	-	0.15	0.5	Ω

**Fig 1 Cathode Current
Vs Cathode Voltage**



**Fig 2 Cathode Current
Vs Cathode Voltage**



**Fig 3 Change in Reference Input
Voltage Vs Cathode voltage**

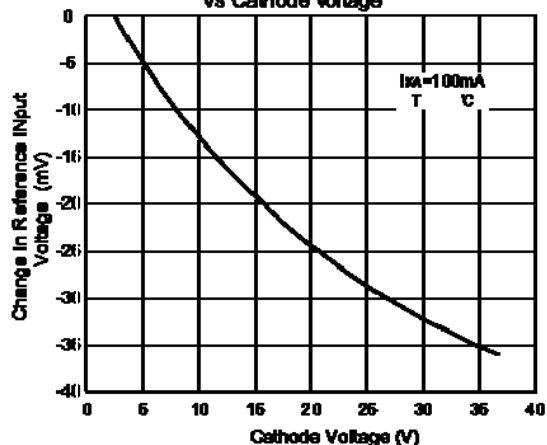
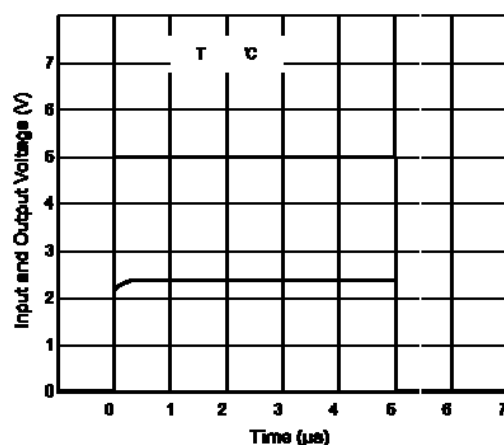
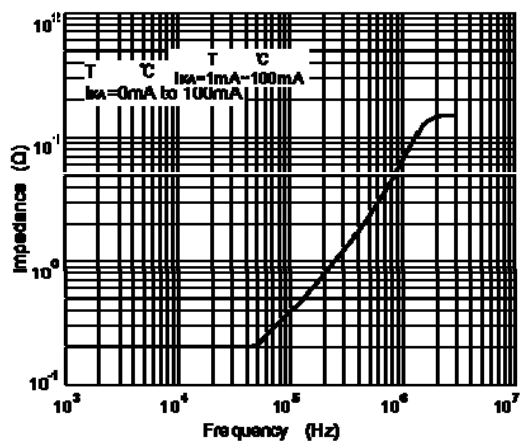


Fig 4 Pulse Response



**Fig 5 Dynamic Impedance
Vs Frequency**



**Fig 6 Small Signal Voltage
Amplification Vs Frequency**

