



THE DATASHEET OF KA723DTF



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Pulse Voltage From V+ to V- (50ms)	$V_{I(P)}$	50	VPEAK
Continuous Voltage from V+ to V-	V_I	40	V
Input-Output Voltage Differential	$V_I - V_O$	40	V
Maximum Output Current	I_O	150	mA
Differential Input Voltage	V_{ID}	±5	V
Voltage Between Non-Inverting Input and V-	V_{IE}	8	V
Current From VZ	I_Z	25	mA
Current From VREF	I_{REF}	15	mA
Power Dissipation	PD	1000	mW
Operating Temperature Range	T_{OPR}	0 ~ +70	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Electrical Characteristics

(Unless otherwise specified, $T_A = 25^\circ\text{C}$, $V_{IN} = V^+ = V_C = 12\text{V}$, $V^- = 0$, $V_{OUT} = 5\text{V}$, $I_L = 1\text{mA}$, $R_{SC} = 0$, $C_I = 100\text{pF}$, $C_{REF} = 0$ and divider impedance as seen by error amplifier $\leq 10\text{K}\Omega$ connected as shown in figure 1)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Line Regulation	ΔV_O	$V_I = 12\text{V to } 15\text{V}$ $V_I = 12\text{V to } 40\text{V}$	-	0.01 0.1	0.1 0.5	%
		$T_{MIN} \leq T_A \leq T_{MAX}$ $V_I = 12\text{V to } 15\text{V}$	-	-	0.3	
Load Regulation	ΔV_O	$I_O = 1\text{mA to } 50\text{mA}$	-	0.03	0.2	%
		$T_{MIN} \leq T \leq T_{MAX}$ $I_O = 1\text{ to } 50\text{mA}$	-	-	0.6	
Ripple Rejection	dB	$f = 100\text{kHz to } 10\text{kHz}, C_{REF} = 0$	-	74	-	dB
		$f = 100\text{kHz to } 10\text{kHz}, C_{REF} = 5\mu\text{F}$	-	86	-	
Average Temperature Coefficient of Output Voltage	$\Delta V_O / \Delta T$	$T_{MIN} \leq T \leq T_{MAX}$	-	0.003	0.015	%/°C
Short Circuit Current Limit	I_{SC}	$R_{SC} = 10\Omega, V_O = 0$	-	65	-	mA
Reference Voltage	V_{REF}	-	6.80	7.15	7.50	V
Output Noise Voltage	V_N	$f = 100\text{kHz to } 10\text{kHz}, C_{REF} = 0$	-	20	-	μVms
		$f = 100\text{kHz to } 10\text{kHz}, C_{REF} = 5\mu\text{F}$	-	2.5	-	
Long-term Stability	ST	-	-	0.1	-	%/ 1000HR
Standby Current Drain	I_D	$I_L = 0, V_I = 30\text{V}$	-	2.0	4.0	mA
Input Voltage Range	V_I	-	9.5	-	40	V
Output Voltage Range	V_O	-	2.0	-	37	V
Input-Output Voltage Differential	V_D	-	3.0	-	38	V

Notes:

- 1.Line and load regulation specifications are given for the condition of constant chip temperature.
- 2.Temperature drifts must be taken into account separately for hit dissipation conditions.

Typical Application

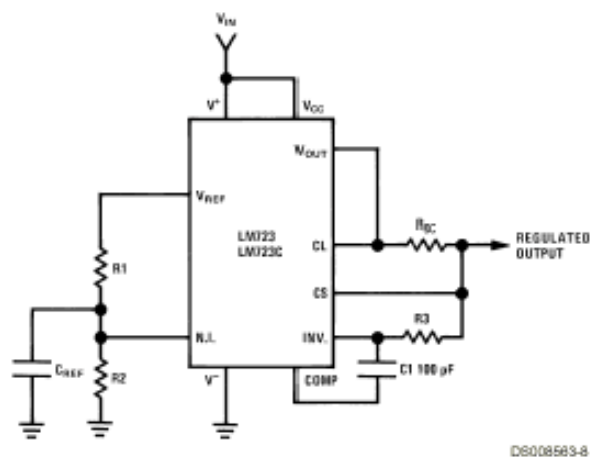


Figure 1. Basic Low Voltage Regulator
(V_{OUT} = 2 to 7Volts)

Note: $R3 = \frac{R1R2}{R1 + R2}$ for minimum temperature drift

Typical Performance

Regulated Output Voltage 5V

Line regulation ($\Delta V_{IN} = 3V$) 0.5mV

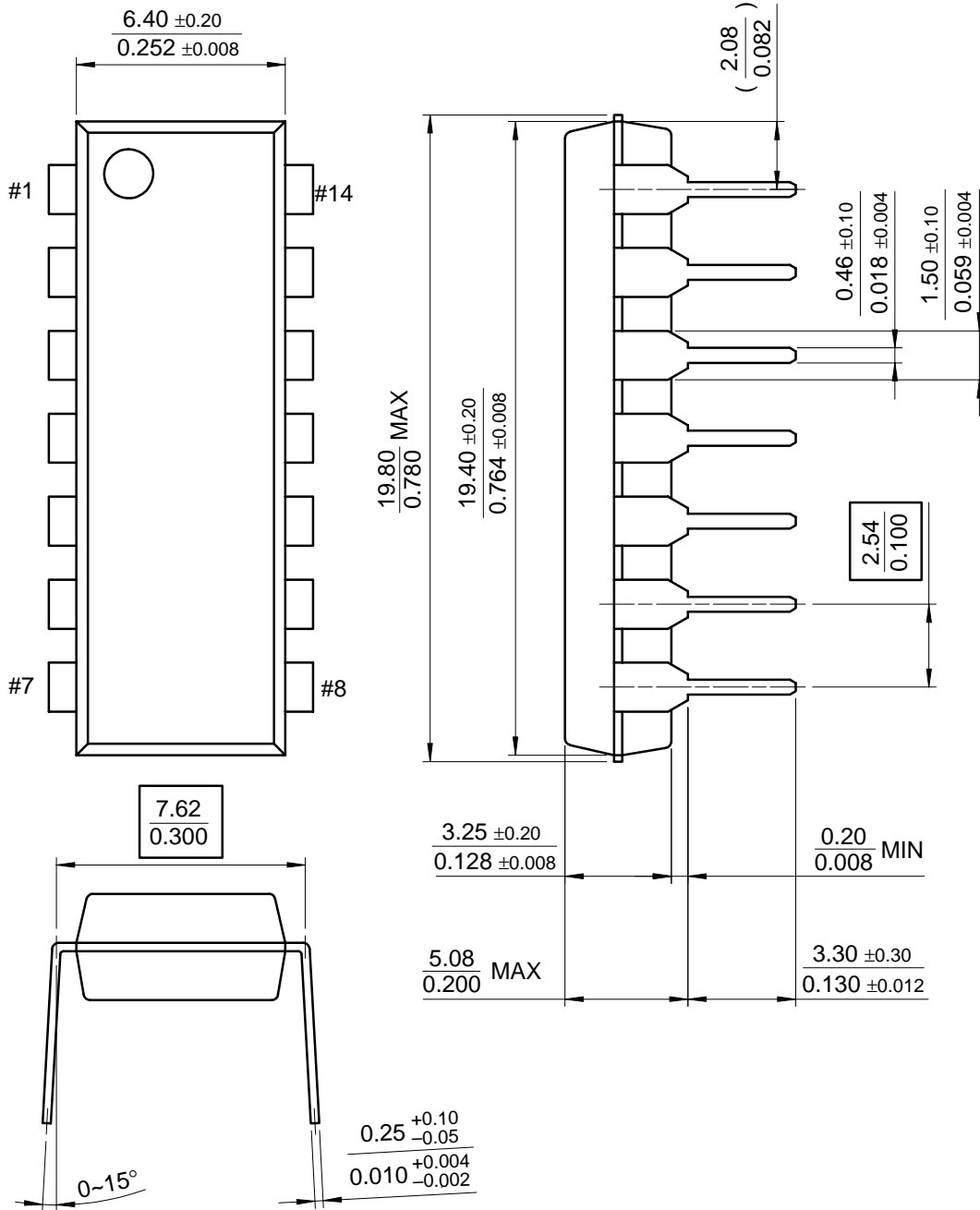
Load Regulation ($\Delta V_L = 50V$) 1.5mV

Mechanical Dimensions

Package

Dimensions in millimeters

14-DIP



Ordering Information

Product Number	Package	Operating Temperature
KA723	14-DIP	0 ~ +70°C
KA723D	14-SOP	

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