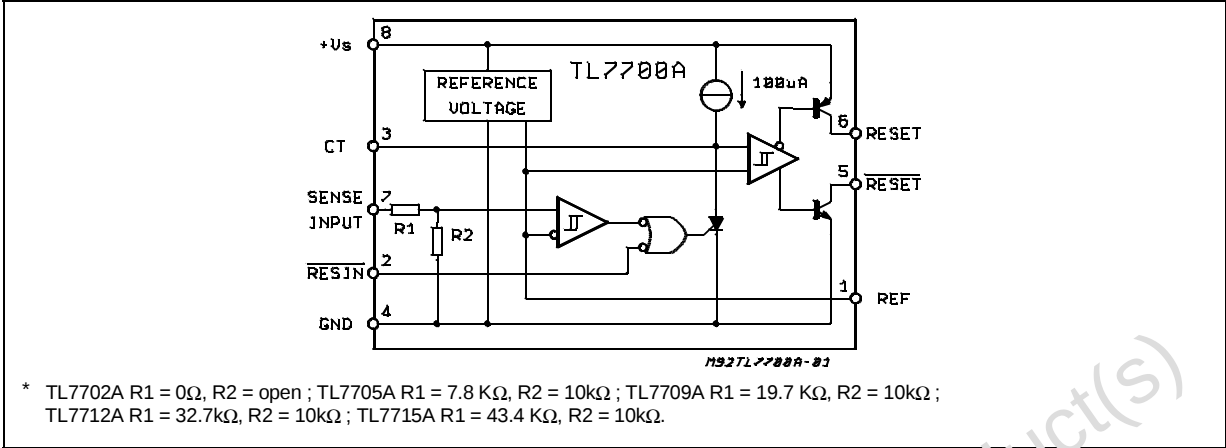


TL7700A Series

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _S	Supply Voltage, V _{CC} - (see note 1)	20	V
V _i	Input Voltage Range at $\overline{\text{RESIN}}$	-0.3 to 20	V
V _i	Input Voltage at SENSE : TL7702A (see note 2) TL7705A	-0.3 to 6 -0.3 to 10	V
I _{OH}	High-level Output Current at $\overline{\text{RESET}}$	-30	mA
I _{OL}	Low-level Output Current at $\overline{\text{RESET}}$	30	mA
T _{amb}	Operating Free-air Temperature Range : TL77XXAI TL77XXAC	-25 to 85 0 to 70	°C
T _{stg}	Storage Temperature Range	-65 to 150	°C

Notes : 1. All voltage values are with respect to the network ground terminal
2. For the TL7700A, the voltage applied to the SENSE terminal must never exceed V_S.

THERMAL DATA

Symbol	Parameter	Value	Unit
R _{JA-amb}	Thermal Resistance Junction-ambient Max.	120	°C/W

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min.	Max.	Unit
V _S	Supply Voltage	3.6	18	V
V _{IH}	High-level Input Voltage at $\overline{\text{RESIN}}$	2		V
V _{IL}	Low-level Input Voltage at $\overline{\text{RESIN}}$		0.6	V
V _i	Voltage at Sense Input TL7702A TL7705A	0 0	See note 3 10	V
I _{OH}	High-level Output Current at $\overline{\text{RESET}}$		-16	mA
I _{OL}	Low-level Output Current at $\overline{\text{RESET}}$		16	mA
T _{amb}	Operating Free-air Temperature Range TL77-AI TL77-AC	-25 0	85 70	°C

Note : 3. For proper operation of the TL7702A, the voltage applied to the SENSE terminal should not exceed V_S - 1V or 6V, which ever is less.

ELECTRICAL CHARACTERISTICS these specifications unless otherwise specified, apply for :

$T_{amb} = -25$ to 85°C (TLXXAI), $T_{amb} = 0$ to 70°C (TL77XXAC)

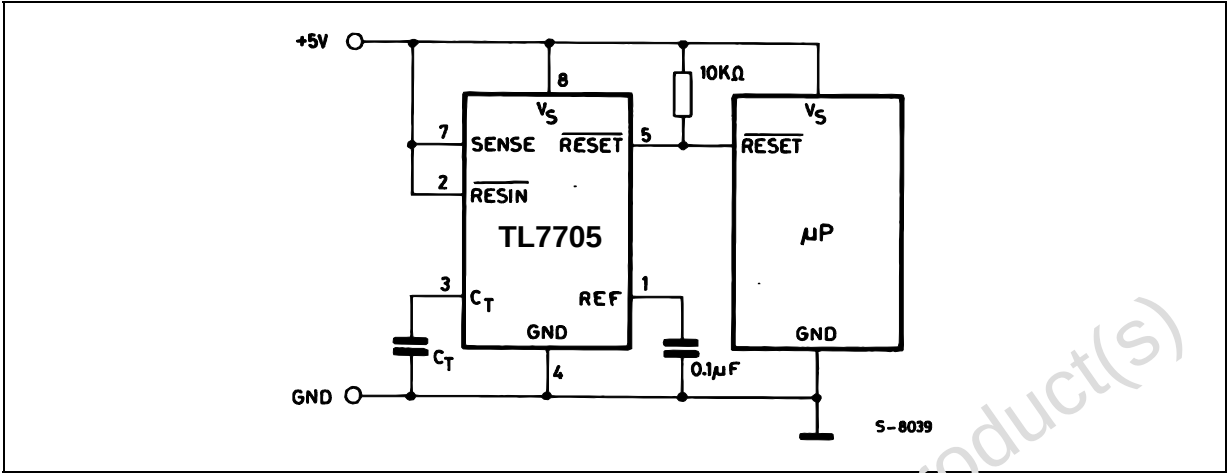
Symbol	Parameter	Test Conditions (1)	Min.	Typ.	Max.	Unit
V_{OH}	High-level Output Voltage at RESET	$I_{OH} = -16\text{mA}$	$V_S - 1.5$			V
V_{OL}	Low-Level Output Voltage at RESET	$I_{OL} = 16\text{mA}$		0.4		V
V_{ref}	Reference Voltage	$T_{amb} = 25^{\circ}\text{C}$	2.48	2.53	2.58	V
V_T	Threshold Voltage at SENSE Input TL7702A TL7705A	$V_S = 3.6\text{V to } 18\text{V}$ $T_{amb} = 25^{\circ}\text{C}$	2.48 4.5	2.53 4.55	2.58 4.6	V
V_T	Threshold Voltage at SENSE Input TL7702A TL7705A	$V_S = 3.6\text{V to } 18\text{V}$	2.45 4.45	2.53 4.55	2.58 4.6	V
V_{T+}, V_{T-}	Hysteresis (2) at SENSE Input TL7702A TL7705A	$V_S = 3.6\text{V to } 18\text{V}$ $T_{amb} = 25^{\circ}\text{C}$		10 15		mV
I_i	Input Current at RESIN Input	$V_i = 2.4\text{V to } V_S$ $V_i = 0.4\text{V}$		20 -100		μA
I_i	Input Current at SENSE Input TL7702A	$V_{ref} < V_i < V_S - 1.5\text{V}$		0.5	2	μA
I_{OH}	High-level Output Current at RESET	$V_O = 18\text{V}$		50		μA
I_{OL}	Low-level Output Current at RESET	$V_O = 0\text{V}$		-50		μA
I_S	Supply Current	All Inputs and Out. open		1.8	3.3	mA

- Notes :**
1. All characteristics are measured with $C = 0.1\mu\text{F}$ from Pin 1 to GND, and with $C = 0.1\mu\text{F}$ from Pin 3 to GND.
 2. Hysteresis is the difference between the positive going input threshold voltage, V_{T+} , and the negative going input threshold voltage, V_{T-} .

SWITCHING CHARACTERISTICS

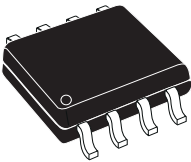
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t_{pi}	Pulse Width at SENSE Input	$V_{ih} = V_{ityp} + 0.04 \times V_i$ $V_{il} = V_{ityp} - 0.04 \times V_i$	0.9			μs
t_{pi}	Pulse Width at RESIN Input		0.4			μs
t_{po}	Pulse Width at Output	$C_T = 0.1\mu\text{F}$	0.65	1.3	2.6	ms
t_{pdHL}	Propagation Delay Time from RESIN to RESET	$C_L = 100\text{pF}$, $V_S = 5\text{V}$, $R_L = 4.7\text{k}\Omega$			1	μs
$t_{r/f}$	Rise/Falltime at RESET and RESET	$C_L = 10\text{pF}$, $V_S = 5\text{V}$, $R_L = 4.7\text{k}\Omega$			1	μs

Figure 1 : Reset Controller for μ P



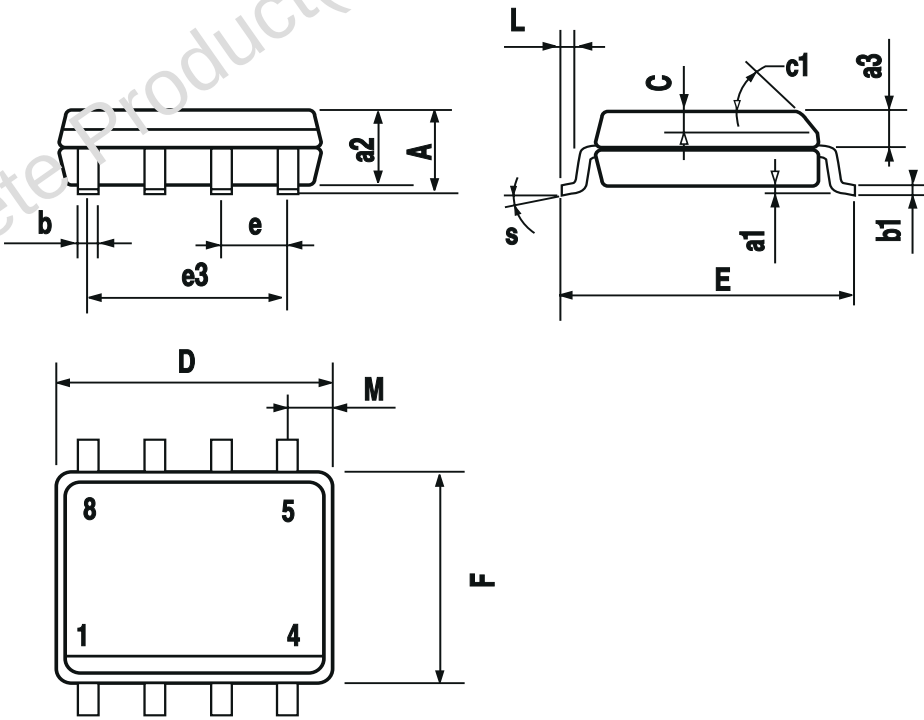
DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.75			0.069
a1	0.1		0.25	0.004		0.010
a2			1.65			0.065
a3	0.65		0.85	0.026		0.033
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.020
c1	45° (typ.)					
D (1)	4.8		5.0	0.189		0.197
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F (1)	3.8		4.0	0.15		0.157
L	0.4		1.27	0.016		0.050
M			0.6			0.024
S	8° (max.)					

OUTLINE AND
MECHANICAL DATA



SO8

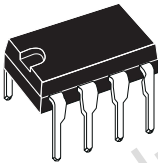
(1) D and F do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.15mm (.006inch).



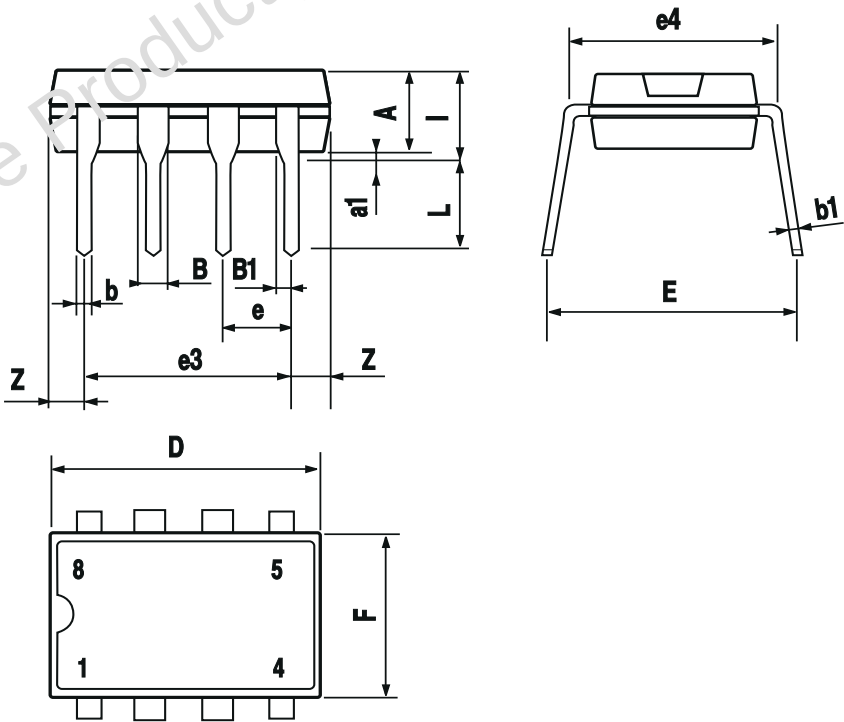
TL7700A Series

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
I			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

OUTLINE AND
MECHANICAL DATA



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