



Preliminary

HT7534-3 / HT7551-3
100mA Low Power LDO

Features

- † / R ZSR Z F R Q V X P S W L R Q
- † / R Z Y R O W D R H S
- † / R Z W H P S H E R M X B H H Q W
- † + L J I K Q S Y R V D W D V R I 9
- † 4 X L H V F X H Q U W S Q W
- † + L J R X W F S X U W U H Q P W
- † 2 X W S R O V D B B M U D F O H U D Q F H
- † 7 2 D Q G 7 S D F N D J H V

General Description

7 K H 7 + 7 D U W K U H H W H U P L Q D O
 K L J F X U O R Q Z W O W B I J H Q B S W R W P H Q W H G
 & 0 2 6 W H F K Q R I O R J D Q H O L Y P I S R X W S X W
 F X U U D H Q Q B V O D R Q S Y R V D W D K L H K V 9
 & 0 2 6 W H F K Q R O V R O U R Y R O W D B H S O R Z
 T X L H V F X H Q U W M Q W
 \$ O W K B X I J K L S O H E D D U W L Q H Y G R O W D J H
 U H J X O V W B S H V L F F D H K V H Z G W I K W H U Q D O
 F R P S R Q H R E W W D L U L Y D R E O W D D Q K U U H Q W V

Applications

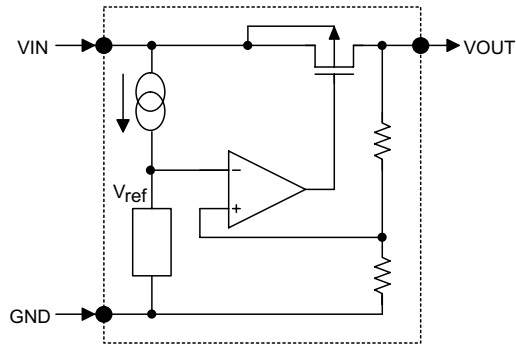
- † % D W W H U \ H S R Z S B H Q W
- † & R P P X Q L H D W L S R H Q W
- † \$ X G L R H L T G H L S P H Q W

Selection Table

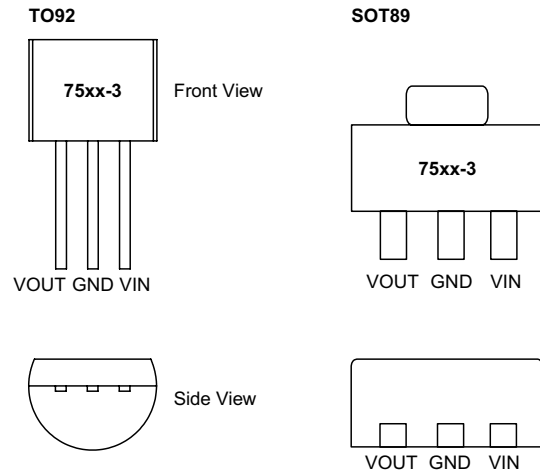
Part No.	Output Voltage	Package	Marking
HT7534-3	3.3V	TO92	7534-3
HT7551-3	5.0V	SOT89	7551-3

1 R V Z H [Z W D I Q B X W S R K O W D J H V

Block Diagram



Pin Assignment



Absolute Maximum Ratings

V_{IN} (VIN) V_{OUT} (VOUT) V_{REF} (Vref) I_{OUT} (IOUT) I_{SC} (ISC) T_{JMAX} (Tjmax) f_{SW} (fsw)

1 R W H K H D B H W W H D W V R Q Q W U H M V F H M W K G D J Q J S H F X Q C S U E V R O X W H S P B W L P Q X P V Z
 P D F D X W X E V W C D P V D M M G H Y J K B F W R B B D B W I K Q B Y D R W K R Q G L B H L R Q G
 W K R O L W L V O M I G S H F L I U P D R V E S Q L G R G U R O R H Q S R Q X R U J H V U H P Q I G L W L D R I Q H P P S \
 G H Y U R O L D E L O L W \

Thermal Information

Symbol	Parameter	Package	Max.	Unit
θ_{JA}	Thermal Resistance (Junction to Ambient) (Assume no ambient airflow, no heat sink)	SOT89	200	°C/W
		TO92	200	°C/W
P_D	Power Dissipation	SOT89	0.50	W
		TO92	0.50	W

1 R W H L P H D V S U B G f &

Electrical Characteristics

HT7534-3, +3.3V Output Type

Ta=25°C

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
		Conditions				
V _{IN}	Input Voltage	—	—	—	30	V
V _{OUT}	Output Voltage Tolerance	V _{IN} =V _{OUT} +2V, I _{OUT} =10mA	3.234	3.300	3.366	V
I _{OUT}	Output Current	V _{IN} =V _{OUT} +2V	70	100	—	mA
ΔV _{OUT}	Load Regulation	V _{IN} =V _{OUT} +2V, 1mA≤I _{OUT} ≤50mA	—	—	60	mV
V _{DIF}	Dropout Voltage	I _{OUT} =1mA, ΔV _O =2%	—	—	55	mV
I _{SS}	Quiescent Current	No load	—	1.0	1.5	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	V _O +1V≤V _{IN} ≤30V, I _{OUT} =1mA	—	—	0.2	%/V
$\frac{\Delta V_{OUT}}{\Delta T_a \times V_{OUT}}$	Temperature Coefficient	I _{OUT} =10mA, -40°C<T _a <85°C	—	100	—	ppm/°C

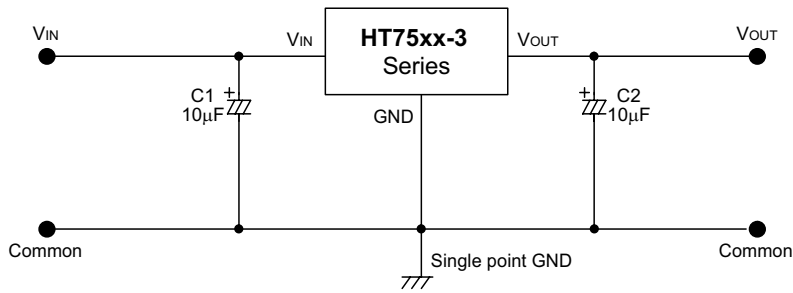
HT7551-3, +5.0V Output Type

Ta=25°C

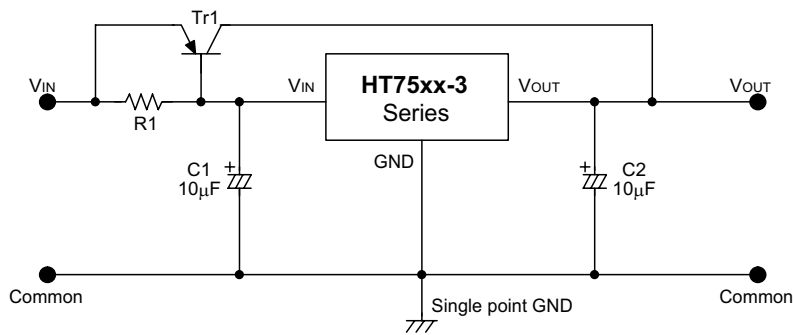
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
		Conditions				
V _{IN}	Input Voltage	—	—	—	30	V
V _{OUT}	Output Voltage Tolerance	V _{IN} =V _{OUT} +2V, I _{OUT} =10mA	4.900	5.000	5.100	V
I _{OUT}	Output Current	V _{IN} =V _{OUT} +2V	100	—	—	mA
ΔV _{OUT}	Load Regulation	V _{IN} =V _{OUT} +2V, 1mA≤I _{OUT} ≤70mA	—	—	60	mV
V _{DIF}	Dropout Voltage	I _{OUT} =1mA, ΔV _O =2%	—	—	55	mV
I _{SS}	Quiescent Current	No load	—	1.0	1.5	μA
$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	Line Regulation	V _O +1V≤V _{IN} ≤30V, I _{OUT} =1mA	—	—	0.2	%/V
$\frac{\Delta V_{OUT}}{\Delta T_a \times V_{OUT}}$	Temperature Coefficient	I _{OUT} =10mA, -40°C<T _a <85°C	—	100	—	ppm/°C

Application Circuits

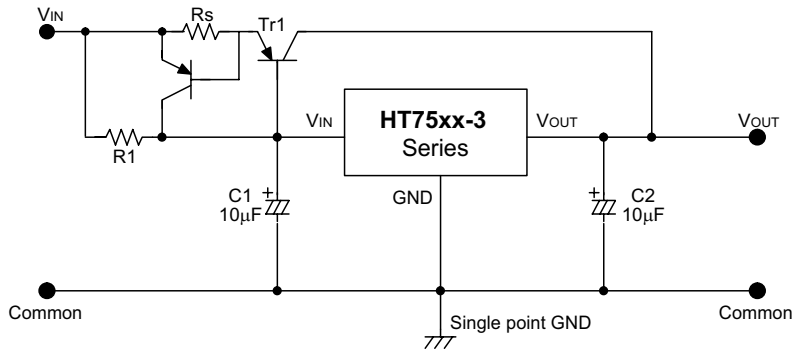
Basic Circuit



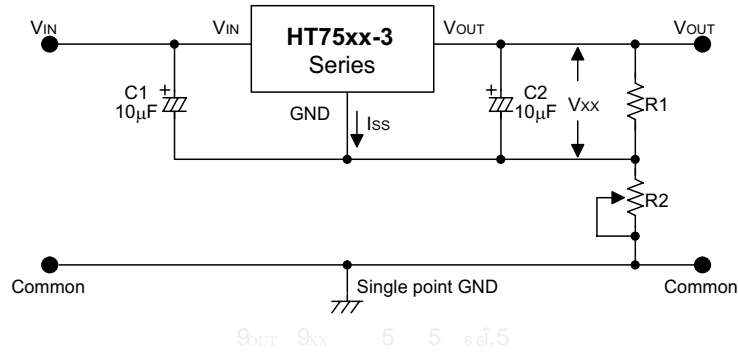
High Output Current Positive Voltage Regulator



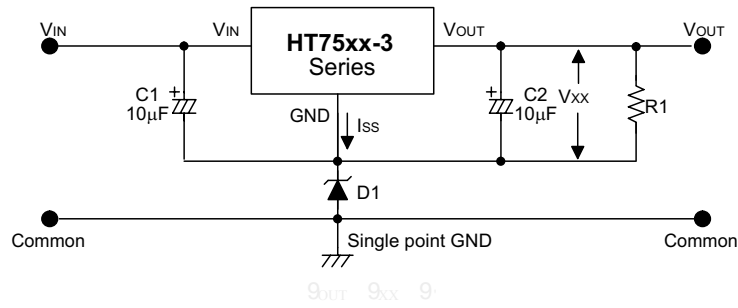
Short-Circuit Protection for Tr1



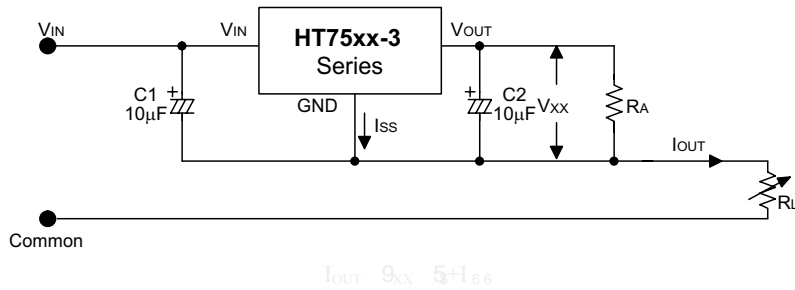
Circuit for Increasing Output Voltage



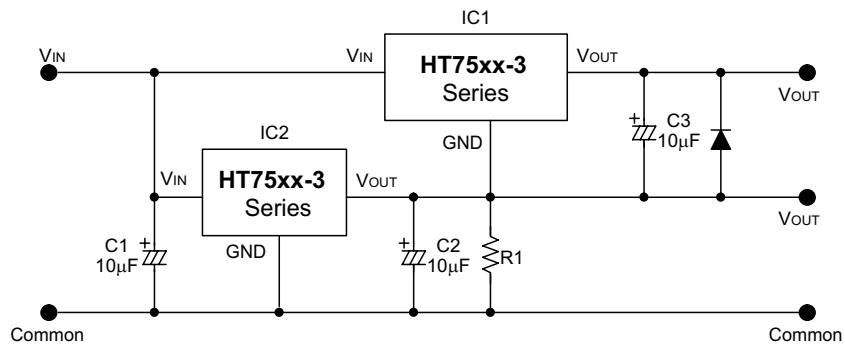
Circuit for Increasing Output Voltage



Constant Current Regulator



Dual Supply



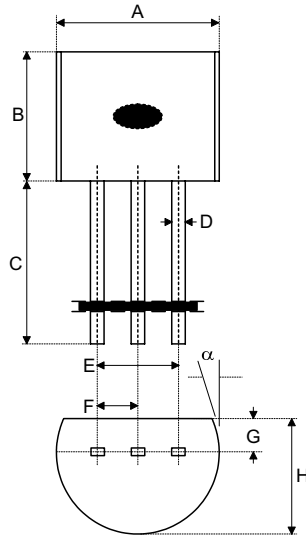
Package Information

1 R W H K V D K S H D F N I D Q I H R U P S D U R L Y K C H H R E R Q V X C S W D S / R D Q W W K L Q / I R U P P D D V E L H R Q
X S G D D V H H G X L Q D M H X M H D U M H P L Q V R R G W X C H I R W I O H D W H V W R L M R I S H D F N D J H
L Q I R U P D W L R Q

\$ G G L W L X R S C S D O C H P L K Q R V U D P Z L W L K R J O V S R G F N D L J Q Q V E W H I D Q R Q L F C W K U H H O H Y H D F O W B R I Q
W U D Q W W R W U H H O G Z Y H E Q S D W I H

L Q F Q X V I O L L Q H Q V B E R Q W X S M Q S H K G H F L ¿ F D W L R Q V

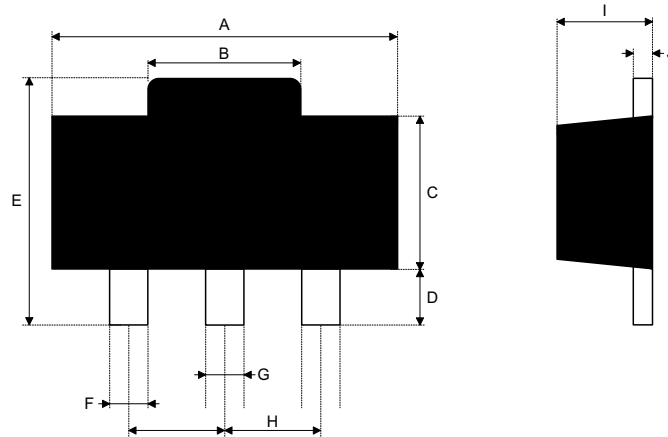
3-pin TO92 Outline Dimensions



Symbol	Dimensions in inch		
	Min.	Nom.	Max.
A	0.170	—	0.200
B	0.170	—	0.200
C	0.500	—	—
D	0.011	—	0.020
E	0.090	—	0.110
F	0.045	—	0.055
G	0.045	—	0.065
H	0.130	—	0.160
α	0°	—	10°

Symbol	Dimensions in mm		
	Min.	Nom.	Max.
A	4.32	—	5.08
B	4.32	—	5.08
C	12.70	—	—
D	0.28	—	0.51
E	2.29	—	2.79
F	1.14	—	1.40
G	1.14	—	1.65
H	3.30	—	4.06
α	0°	—	10°

3-pin SOT89 Outline Dimensions



Symbol	Dimensions in inch		
	Min.	Nom.	Max.
A	0.173	—	0.181
B	0.059	—	0.072
C	0.090	—	0.102
D	0.035	—	0.047
E	0.155	—	0.167
F	0.014	—	0.019
G	0.017	—	0.022
H	—	0.059	—
I	55	—	63
J	14	—	17

Symbol	Dimensions in mm		
	Min.	Nom.	Max.
A	4.39	—	4.60
B	1.50	—	1.83
C	2.29	—	2.59
D	0.89	—	1.19
E	3.94	—	4.24
F	0.36	—	0.48
G	0.43	—	0.56
H	—	1.50	—
I	1.40	—	1.60
J	0.36	—	0.43

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