

Descriptions

- Three Terminal Positive Low Dropout Voltage Regulator

Features

- Low Standby Current Consumption (500 μ A Typ.)
- Maximum Output Current (180 mA Max.)
- Less I/O voltage Difference (250 mV Max.)

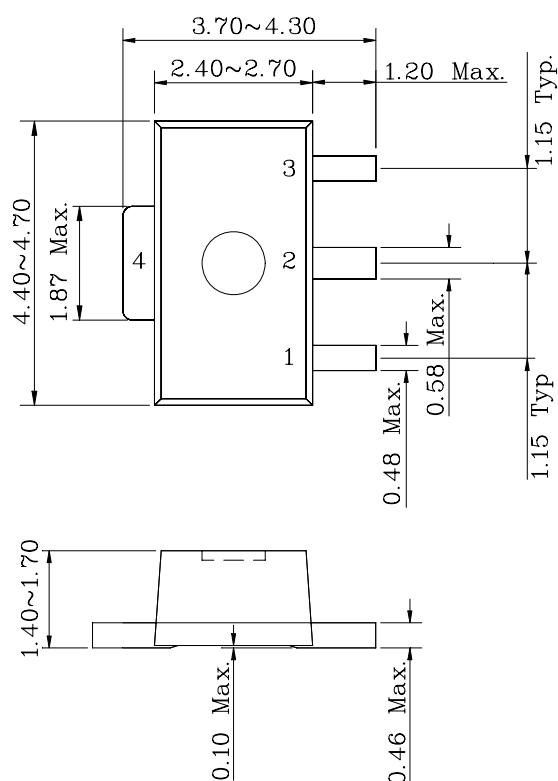
Ordering Information

Type NO.	Marking	Package Code
S78DL33F	33□□	SOT-89

□□: Monthly Code, Weekly Code

Outline Dimensions

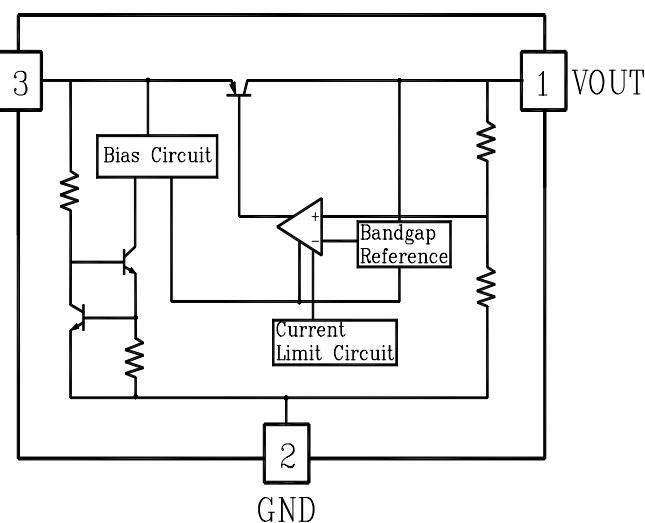
unit : mm



PIN Connections

1. Output
2. GND
3. Input

Functional Block Diagram



Maximum ratings

Ta=25°C

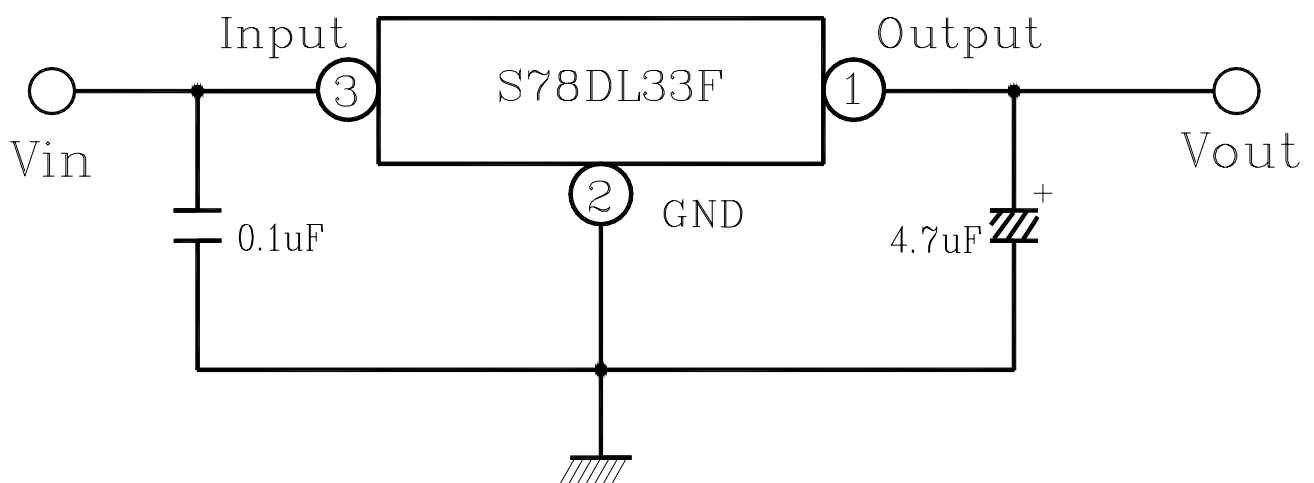
Characteristic	Symbol	Ratings	Unit
Operating Input voltage	V_{IN}	16	V
Power Dissipation	P_D	500	mW
Operating Temperature Range	T_{OPR}	-40~+85	°C
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C
Lead Temperature Time	T_{sol}	260 (10 Sec)	°C

Electrical Characteristics

(※ $V_{IN}=4.3V$, $I_{OUT}=100\mu A$, $T_j=25^\circ C$)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output voltage	V_{OUT}	$V_{IN}=4.3V$, $I_{OUT}=100\mu A$	3.168	3.3	3.432	V
Voltage Regulation	$\Delta V_{OUT}(1)$	$V_{IN}=4.3V \sim 10V$, $I_{OUT}=100\mu A$	-	2	15	mV
Load Regulation	$\Delta V_{OUT}(2)$	$V_{IN}=4.3V$, $I_{OUT}=1 \sim 100mA$	-	7	28	mV
Dropout Voltage	V_{DROP}	$I_{OUT}=50mA$	-	110	230	mV
		$I_{OUT}=100mA$	-	150	300	
Ripple Rejection Ratio	RR	$f=100Hz$, $I_{OUT}=100\mu A$	-	75	-	dB
Ground pin Current	I_{GND}	$V_{IN}=4.3V$, $I_{OUT}=100\mu A$		200	400	μA
		$V_{IN}=4.3V$, $I_{OUT}=50mA$		0.9	1.8	mA
		$V_{IN}=4.3V$, $I_{OUT}=100mA$		2.1	4	mA

Test circuit



Electrical Characteristic Curves

Fig. 1. $V_{in} - V_{out}$

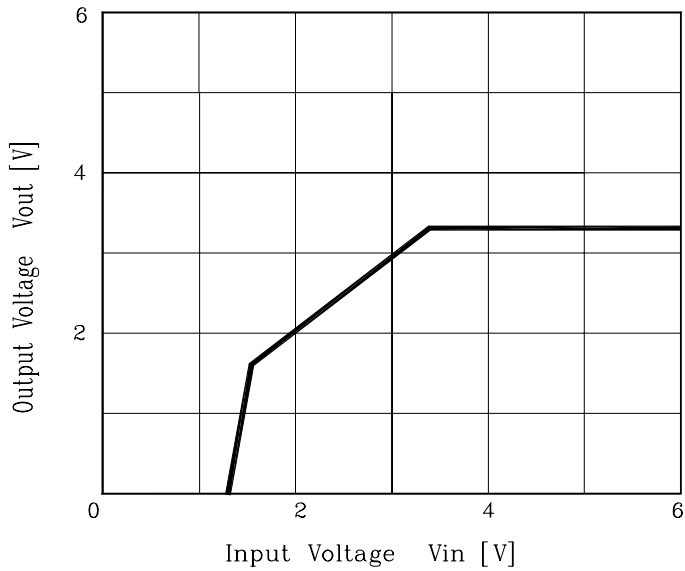


Fig. 2. $|V_{out} - V_{in}| - I_{OUT}$

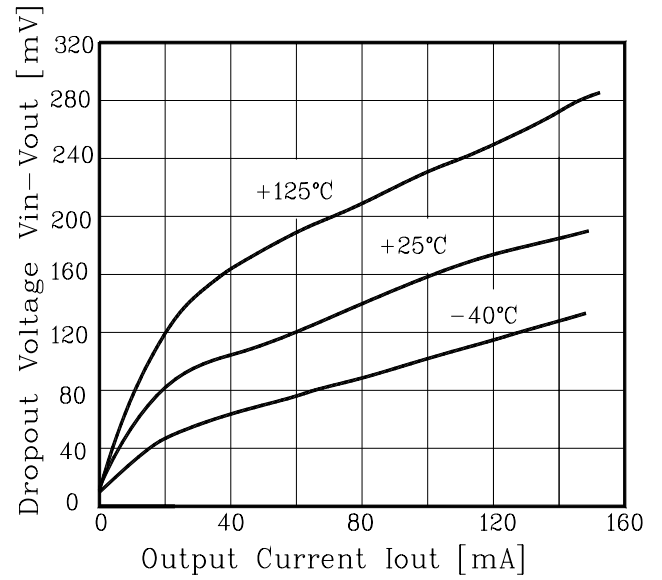


Fig. 3. $P_d - T_a$

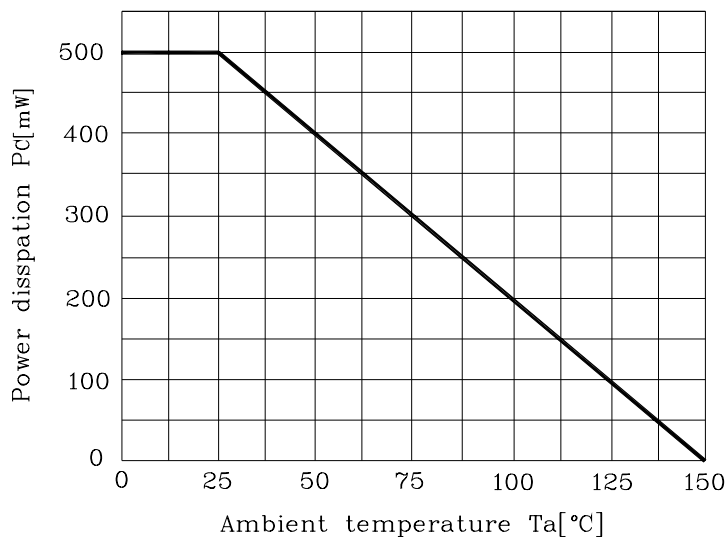
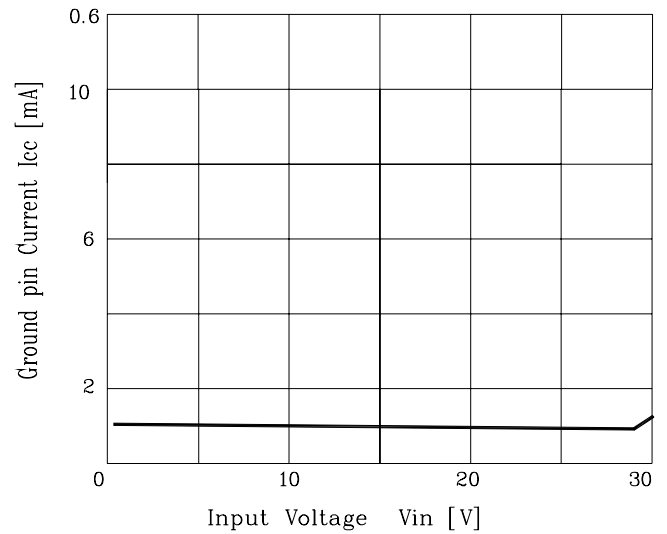


Fig. 4. Input voltage – Ground pin Current



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