

## Descriptions

- The S78DL15 is a linear voltage regulator that provides 150mA of output current in the TO-92 package.
- This regulator has low dropout voltage and low quiescent current and current limit protection.

## Features

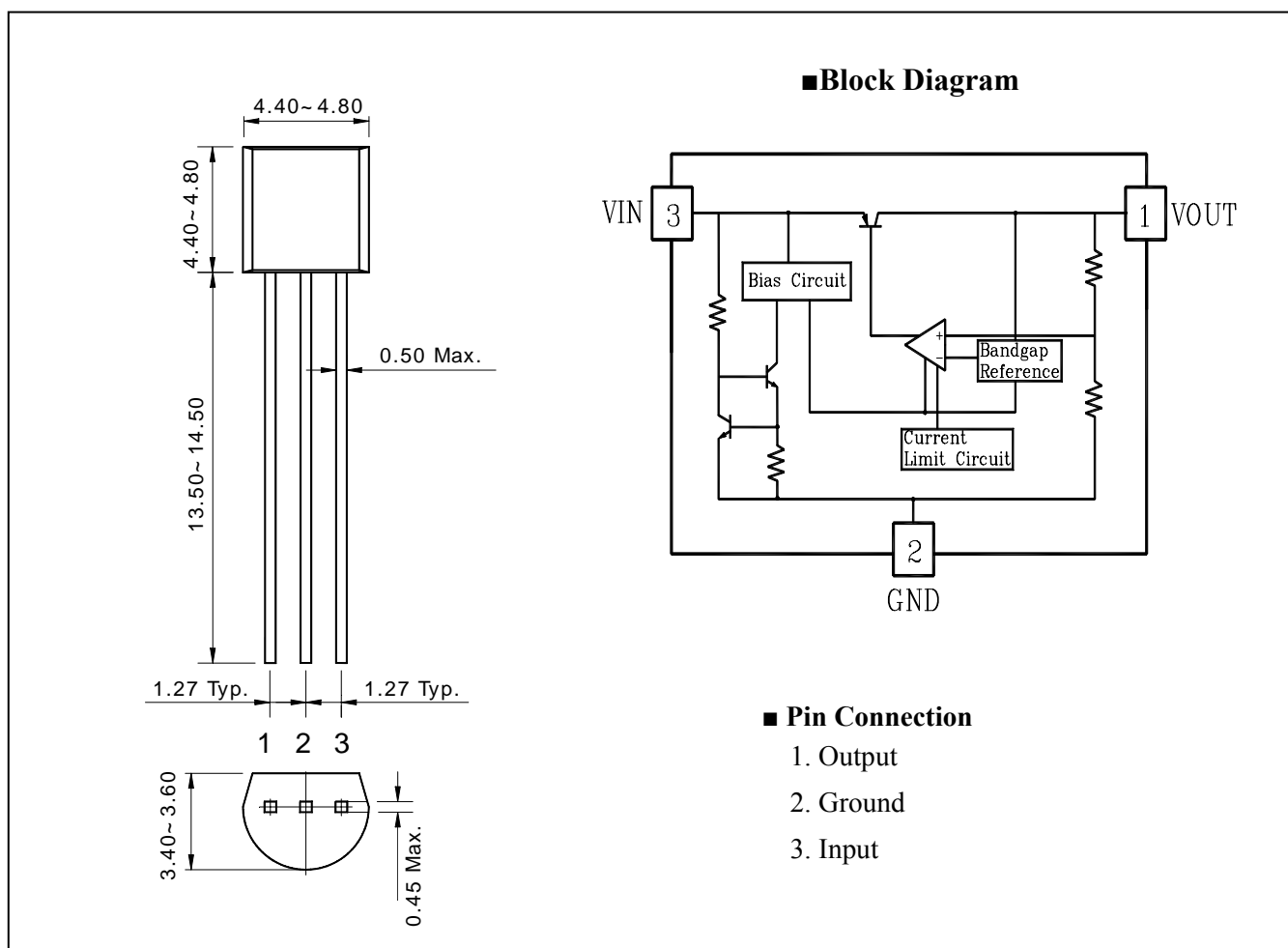
- Low Quiescent Current Consumption (250uA Typ.)
- Maximum Output Current (150mA Max.)
- Less Input/Output Voltage Difference (600mV Max @ $I_O=100mA$ .)

## Ordering Information

Type NO.	Marking	Package Code
S78DL15	S78DL15	TO-92

## Outline Dimensions

unit: mm



## Maximum ratings

Ta=25°C

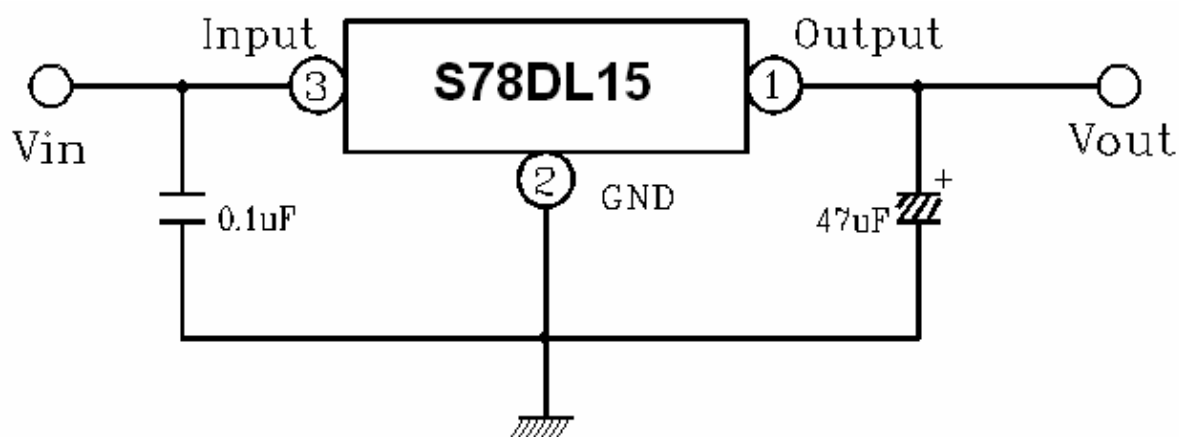
Characteristic	Symbol	Ratings	Unit
Operating Input Voltage	V <sub>IN</sub>	16	V
Power Dissipation	P <sub>D</sub>	625	mW
Junction Temperature	T <sub>j</sub>	150	°C
Operating Temperature Range	T <sub>OPR</sub>	-40~+85	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

## Electrical Characteristics

(Electric Characteristic at V<sub>IN</sub>=V<sub>O</sub>+1.0V, I<sub>OUT</sub>=100uA, T<sub>j</sub>=25°C, unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V <sub>O</sub>	V <sub>IN</sub> =2.5V, I <sub>OUT</sub> =100uA	1.44	1.50	1.56	V
Line Regulation	ΔV <sub>O(ΔV<sub>I</sub>)</sub>	V <sub>IN</sub> =2.5V~10V, I <sub>OUT</sub> =100uA	-	1	5	mV
Load Regulation	ΔV <sub>O(ΔI<sub>O</sub>)</sub>	V <sub>IN</sub> =2.5V, I <sub>OUT</sub> =1~150mA	-	15	28	mV
Dropout Voltage	V <sub>DROP</sub>	I <sub>OUT</sub> =50mA	-	450	500	mV
		I <sub>OUT</sub> =100mA	-	500	600	
Ripple Rejection Ratio	RR	f=120Hz, I <sub>OUT</sub> =100uA	-	75	-	dB
Quiescent Current	I <sub>QC</sub>	V <sub>IN</sub> =2.5V, I <sub>OUT</sub> =100uA	-	250	400	uA
		V <sub>IN</sub> =2.5V, I <sub>OUT</sub> =50mA	-	1.5	3.0	mA
		V <sub>IN</sub> =2.5V, I <sub>OUT</sub> =100mA	-	3.5	5.0	mA

## Test circuit



## Electrical Characteristics Curves

Fig.1  $I_O$  vs.  $V_{DROP}$

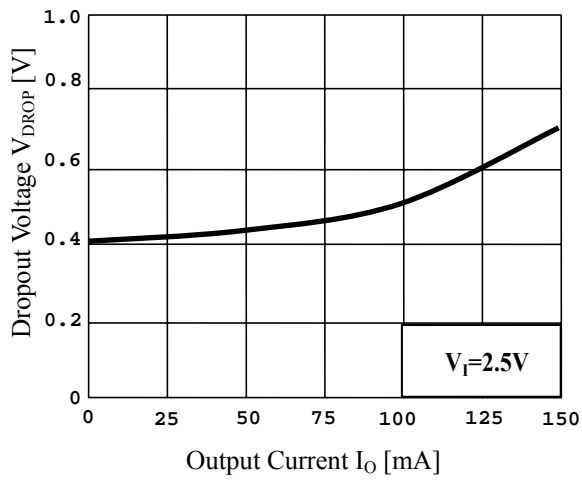


Fig.2  $V_I$  vs.  $I_{QC}$

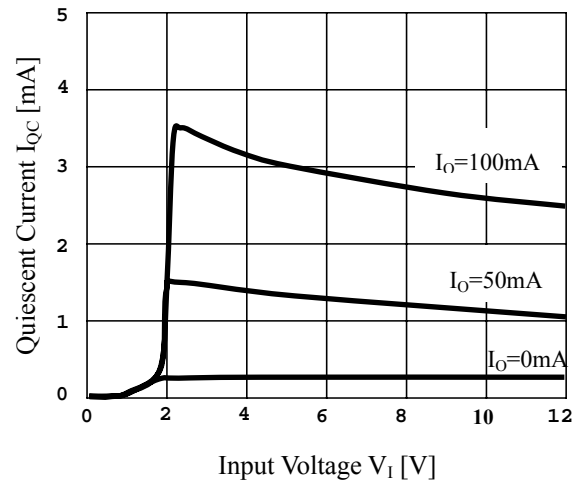


Fig.3  $P_D$  vs.  $T_a$

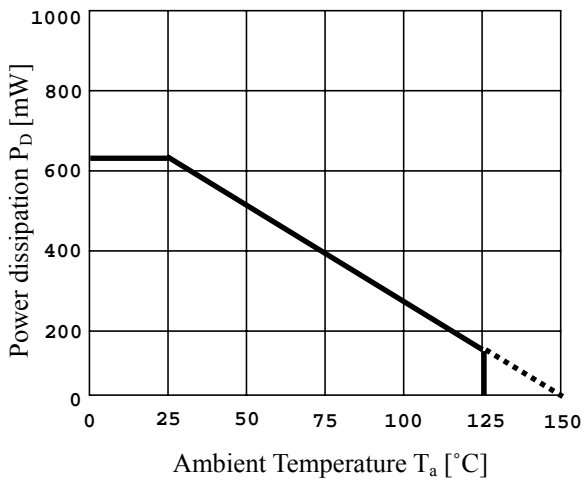
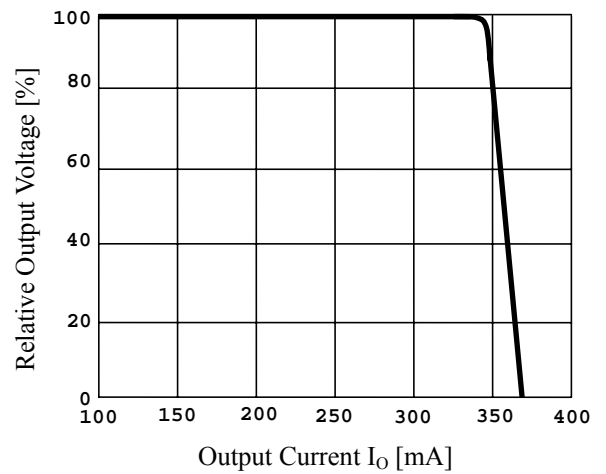


Fig.4  $I_O$  vs.  $V_O$



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