



# S78DL05F

Low Drop output Voltage Regulator

## Descriptions

- Three Terminal Positive Low Dropout Voltage Regulator

## Features

- Low Standby Current Consumption ( $500 \mu\text{A}$  Typ.)
- Maximum Output Current ( $150 \text{ mA}$  Max.)
- Less I/O voltage Difference ( $0.7\text{V}$  Max.)

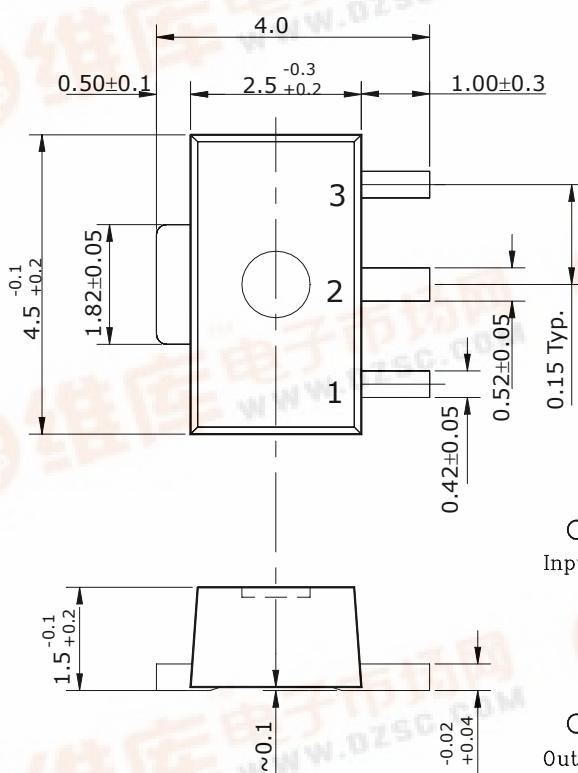
## Ordering Information

Type NO.	Marking	Package Code
S78DL05F	85□□	SOT-89

□□: Monthly Code, Weekly Code

## Outline Dimensions

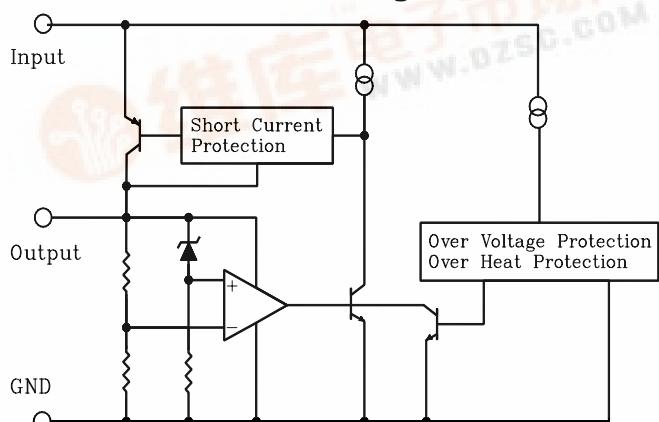
unit : mm



### PIN Connections

- Output
- GND
- Input

### Functional Block Diagram



# S78DL05F

## Maximum ratings

T<sub>a</sub>=25°C

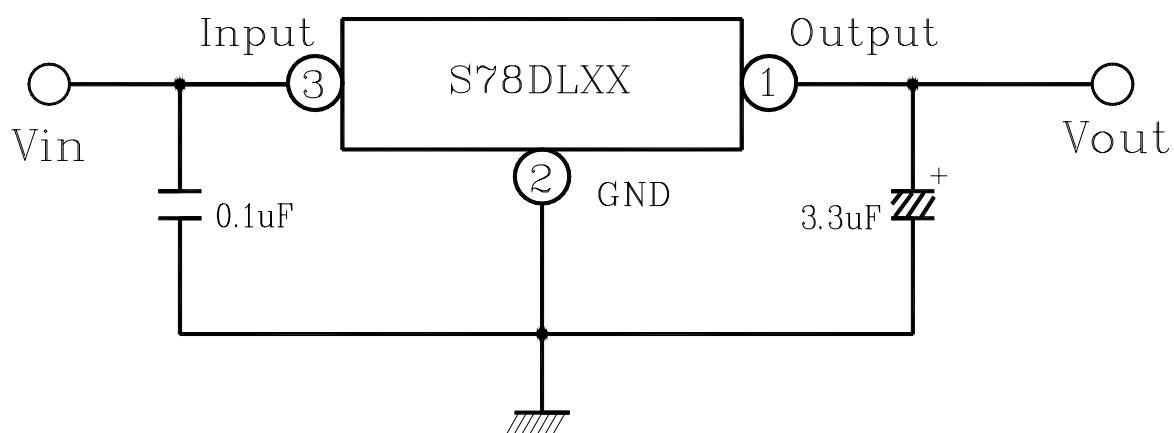
Characteristic	Symbol	Ratings	Unit
Operating Input voltage	V <sub>IN</sub>	20	V
Power Dissipation	P <sub>D</sub>	500	mW
Operating Temperature Range	T <sub>OPR</sub>	-40~+85	°C
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C
Lead Temperature Time	T <sub>sol</sub>	260 (10 Sec)	°C

## Electrical Characteristics

(※ V<sub>IN</sub>=10V, I<sub>OUT</sub>=10 mA, T<sub>j</sub>=25°C)

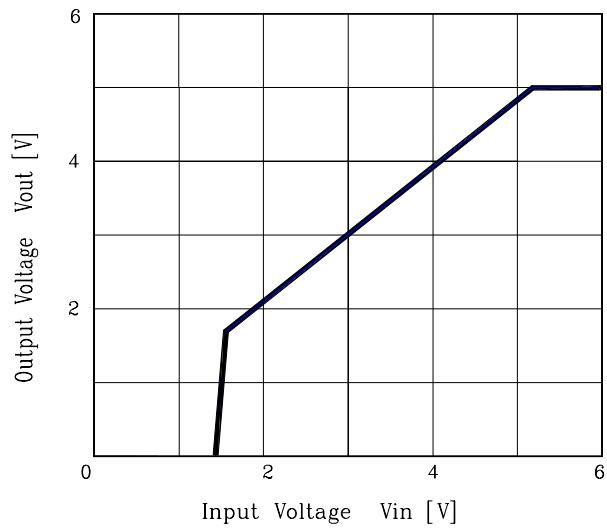
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output voltage	V <sub>OUT</sub>	V <sub>IN</sub> =5.35V~20V , T <sub>a</sub> =-40~85°C	4.8	5	5.2	V
Voltage Regulation	Δ V <sub>OUT</sub> (1)	V <sub>IN</sub> =6V~16V	-	10	30	mV
Load Regulation	Δ V <sub>OUT</sub> (2)	I <sub>OUT</sub> =10~100mA	-	12	50	mV
Quiescent Current	I <sub>CC</sub>	I <sub>OUT</sub> ≤ 10mA , V <sub>IN</sub> =6V~20V	-	0.5	1	mA
Dropout Voltage	V <sub>DROP</sub>	I <sub>OUT</sub> =50mA	-	0.3	0.5	V
		I <sub>OUT</sub> =100mA	-	0.5	0.7	
Maximum Operating Input Voltage	V <sub>IN</sub>		20	29	-	V

## ■ Test circuit

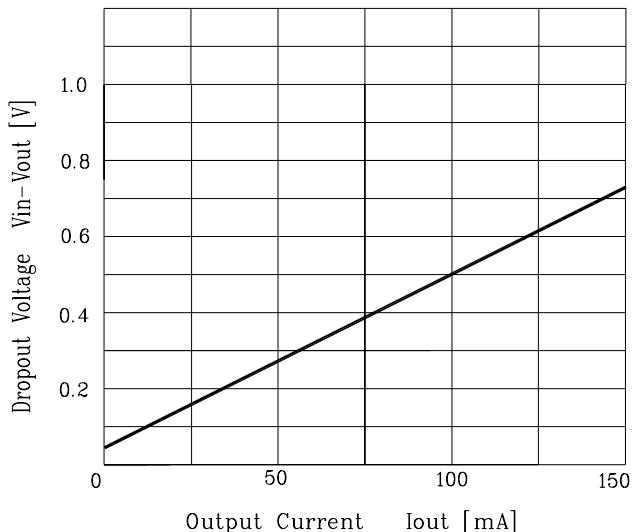


## Electrical Characteristic Curves

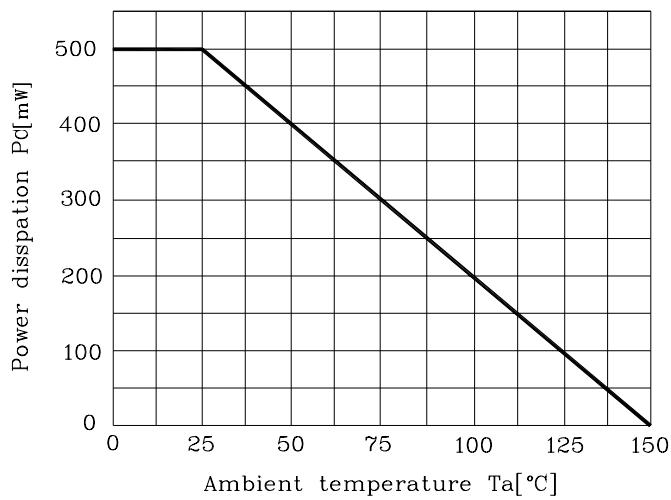
**Fig. 1. Vin - Vout**



**Fig. 2 |Vout - Vin| -  $I_c$**



**Fig. 3. Pd - Ta**



**Fig. 4. Icc - Vout**

