



DC COMPONENTS CO., LTD.  
INTEGRATED CIRCUIT

DM78L12  
DM78L12A

TECHNICAL SPECIFICATIONS OF LOW CURRENT POSITIVE VOLTAGE REGULATOR

**Description**

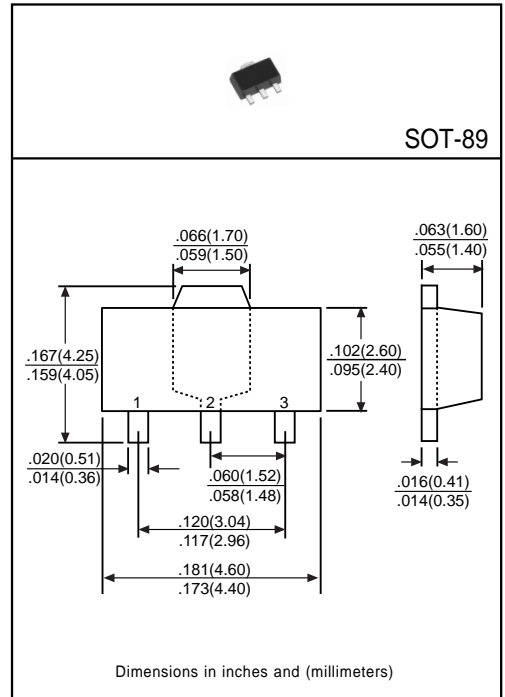
These regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. They can deliver up to 100mA output current, if the case temperature can keep in  $T_c=25^{\circ}\text{C}$ . They are intended as fixed voltage regulators in a wide range of applications including local(on-card) regulation for elimination of noise and distribution problems associated with single-point regulation. In addition, they can be used with power pass elements to make high-current voltage regulators.

**Pinning**

- 1 = Output
- 2 = Ground
- 3 = Input

**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$ )

Characteristic	Symbol	Rating	Unit
Input Voltage	$V_i$	35	V
Total Power Dissipation	$P_d$	Internal limit	W
Operating Temperature Range	$T_{opr}$	0 to +125	$^{\circ}\text{C}$
Maximum Junction Temperature	$T_J$	125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$
Lead Temperature(Soldering 10 Sec.)	$T_L$	260	$^{\circ}\text{C}$



**Electrical Characteristics**

( $V_{in}=19\text{V}$ ,  $I_{out}=40\text{mA}$ ,  $0^{\circ}\text{C}\leq T_J\leq 125^{\circ}\text{C}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_{out}=0.1\mu\text{F}$ , unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Output Voltage	DM78L12A	11.64	12.00	12.36	V	$T_J=25^{\circ}\text{C}$ $1\text{mA}\leq I_o\leq 70\text{mA}$ $1\text{mA}\leq I_o\leq 40\text{mA}$ , $14.5\text{V}\leq V_{in}\leq 27\text{V}$
	DM78L12	11.40	12.00	12.60		
		11.40	12.00	12.60		
		11.40	12.00	12.60		
Line Regulation	$Reg_{line}$	-	-	250	mV	$T_J=25^{\circ}\text{C}$ , $14.5\text{V}\leq V_{in}\leq 27\text{V}$
		-	-	200		$T_J=25^{\circ}\text{C}$ , $16\text{V}\leq V_{in}\leq 27\text{V}$
Load Regulation	$Reg_{load}$	-	-	50	mV	$T_J=25^{\circ}\text{C}$ , $1\text{mA}\leq I_o\leq 40\text{mA}$
		-	-	100		$T_J=25^{\circ}\text{C}$ , $1\text{mA}\leq I_o\leq 100\text{mA}$
Input Bias Current	$I_{IB}$	-	-	6.0	mA	$T_J=25^{\circ}\text{C}$
Input Bias Current Change	$\Delta I_{IB}$	-	-	0.1	mA	$1\text{mA}\leq I_o\leq 40\text{mA}$
		-	-	1.5		$16\text{V}\leq V_{in}\leq 27\text{V}$
Output Noise Voltage	$V_n$	-	80	-	$\mu\text{V}$	$T_A=25^{\circ}\text{C}$ , $10\text{Hz}\leq f\leq 100\text{KHz}$
Ripple Rejection	RR	40	54	-	dB	$15\text{V}\leq V_{in}\leq 25\text{V}$ , $f=120\text{Hz}$
Dropout Voltage	$V_D$	-	1.7	-	V	$T_J=25^{\circ}\text{C}$
Peak Output Current	$I_{max}$	-	140	-	mA	$T_J=25^{\circ}\text{C}$