



DC COMPONENTS CO., LTD.

INTEGRATED CIRCUIT

DM78L06
DM78L06A

TECHNICAL SPECIFICATIONS OF LOW CURRENT POSITIVE VOLTAGE REGULATOR

Description

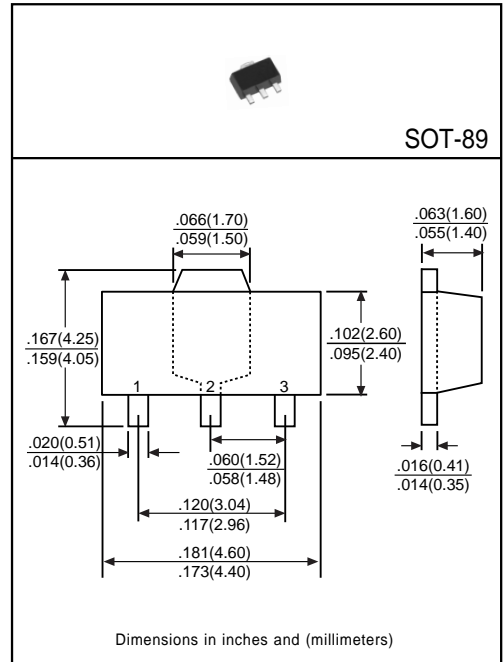
These regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. They can deliver up to 100mA output current, if the case temperature can keep in $T_c=25^{\circ}\text{C}$. They are intended as fixed voltage regulators in a wide range of applications including 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	30	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

($V_{in}=12\text{V}$, $I_{out}=40\text{mA}$, $0^{\circ}\text{C}\leq T_J\leq 125^{\circ}\text{C}$, $C_{in}=0.33\mu\text{F}$, $C_{out}=0.1\mu\text{F}$, unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Conditions
Output Voltage	DM78L06A	V_o	5.82	6.00	6.18	V	$T_J=25^{\circ}\text{C}$ $1\text{mA}\leq I_o\leq 40\text{mA}$, $8\text{V}\leq V_{in}\leq 20\text{V}$
	DM78L06		5.70	6.00	6.30		
	DM78L06A		5.76	6.00	6.24		
	DM78L06		5.68	6.00	6.36		
Line Regulation	DM78L06A	Reg _{line}	-	55	150	mV	$T_J=25^{\circ}\text{C}$, $8\text{V}\leq V_{in}\leq 20\text{V}$ $T_J=25^{\circ}\text{C}$, $9\text{V}\leq V_{in}\leq 20\text{V}$
	DM78L06		-	55	175		
	DM78L06A		-	45	100		
	DM78L06		-	45	125		
Load Regulation	DM78L06A	Reg _{load}	-	5.0	35	mV	$T_J=25^{\circ}\text{C}$, $1\text{mA}\leq I_o\leq 40\text{mA}$ $T_J=25^{\circ}\text{C}$, $1\text{mA}\leq I_o\leq 100\text{mA}$
	DM78L06		-	5.0	50		
	DM78L06A		-	10	70		
	DM78L06		-	10	100		
Input Bias Current		I_{ib}	-	2.0	6.0	mA	$T_J=25^{\circ}\text{C}$
Input Bias Current Change	DM78L06A	ΔI_{ib}	-	-	0.1	mA	$1\text{mA}\leq I_o\leq 40\text{mA}$ $8\text{V}\leq V_{in}\leq 20\text{V}$
			-	-	1.5		
			-	-	1.6		
Output Noise Voltage		V_n	-	50	120	μV	$T_A=25^{\circ}\text{C}$, $10\text{Hz}\leq f\leq 100\text{KHz}$
Ripple Rejection		RR	40	-	-	dB	$9\text{V}\leq V_{in}\leq 19\text{V}$, $f=120\text{Hz}$
Dropout Voltage		V_D	-	1.7	-	V	$T_J=25^{\circ}\text{C}$
Peak Output Current		I_{max}	-	140	-	mA	$T_J=25^{\circ}\text{C}$