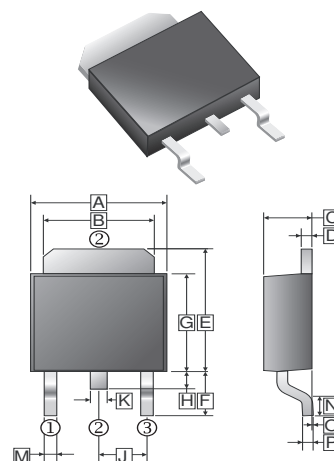


RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

The SJ78M09 series of three-terminal positive regulators are available in the TO-252 package and with 5V fixed output voltage, making it useful in a wide range of applications. This regulator can provide local on-card regulation, eliminating the distribution problems associated with single point regulation. It employs internal current limiting, thermal shut-down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 0.5A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

TO-252

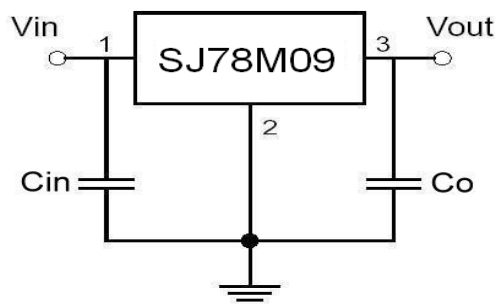


PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13' inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.4	6.8	J	2.30	REF.
B	5.20	5.50	K	0.70	0.90
C	2.20	2.40	M	0.50	1.1
D	0.45	0.58	N	0.9	1.6
E	6.8	7.3	O	0	0.15
F	2.40	3.0	P	0.43	0.58
G	5.40	6.2			
H	0.8	1.20			

TYPICAL APPLICATION



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNITS
Input Voltage	V_{IN}	25	V
Output Current	I_o	500	mA
Operating Temperature Range	T_J	0~+125	°C
Storage Temperature Range	T_{STG}	-65~+150	°C
Total Power Dissipation	P_D	1.25	W

ELECTRICAL CHARACTERISTICS

(Refer to the test circuits, $T_J=25\text{ }^\circ\text{C}$, $I_O=350\text{mA}$, $V_{IN}=16\text{V}$, $C_{IN}=0.33\mu\text{F}$, $C_O=0.1\mu\text{F}$ unless otherwise specified)

Symbol	Test Conditions	Min	Typ	Max	Unit
V_O		8.65	9	9.35	V
	$11.5\text{V} \leq V_{IN} \leq 24\text{V}$, $5\text{mA} \leq I_O \leq 350\text{mA}$, $P_O \leq 15\text{W}$, $T_J=0\sim 125\text{ }^\circ\text{C}$	8.55	9	9.45	
$\Delta V_O(\text{Line Regulation})$	$11.5\text{V} \leq V_{IN} \leq 26\text{V}$, $I_O=200\text{mA}$,	-	6	100	mV
	$12\text{V} \leq V_{IN} \leq 26\text{V}$, $I_O=200\text{mA}$,	-	2	50	
$\Delta V_O(\text{Load Regulation})$	$5\text{mA} \leq I_O \leq 500\text{mA}$,	-	20	180	mV
	$5\text{mA} \leq I_O \leq 200\text{mA}$,	-	10	90	
I_Q		-	4.6	6	mA
ΔI_Q	$5\text{mA} \leq I_O \leq 350\text{mA}$, $T_J=0\sim 125\text{ }^\circ\text{C}$	-	-	0.5	mA
	$11.5\text{V} \leq V_{IN} \leq 26\text{V}$, $I_O=200\text{mA}$, $T_J=0\sim 125\text{ }^\circ\text{C}$	-	-	0.8	
V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	-	60	-	μA
RR	$13\text{V} \leq V_{IN} \leq 23\text{V}$, $f=120\text{Hz}$, $I_O=300\text{mA}$, $T_J=0\sim 125\text{ }^\circ\text{C}$	56	80	-	dB
V_D	$I_O=350\text{mA}$	-	2	-	V
I_{SC}	$V_{IN}=16\text{V}$	-	250	-	mA
I_{PK}		-	500	-	mA