

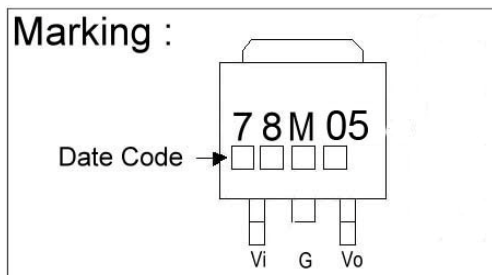
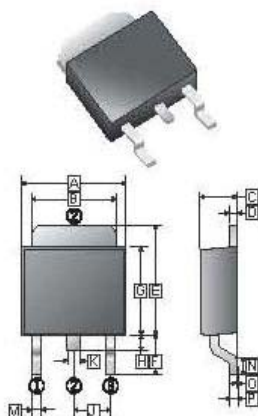
RoHS Compliant Product  
A suffix of "-C" specifies halogen and lead-free

## DESCRIPTION

The SJ78M05 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. SJ78M05 is characterized for operation from 0 C to +125 C.

## PACKAGE DIMENSIONS

TO-252



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.35	6.8	J	2.30 REF.	
B	5.20	5.50	K	0.70	0.90
C	2.20	2.40	L	0.50	0.70
D	0.43	0.58	M	0.60	0.90
E	6.40	7.35	N	1.40	1.78
F	2.40	3.00	O	0	0.15
G	5.40	5.80	P	0.43	0.58
H	0.60	1.20			

## ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNITS
Input Voltage	$V_{IN}$	35	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	$P_D$	1.0*	W

## ELECTRICAL CHARACTERISTICS

**SJ78M05** (Refer to the test circuits,  $T_A=25^\circ\text{C}$ ,  $I_O=350\text{mA}$ ,  $V_{IN}=10\text{V}$ ,  $C_{IN}=0.33\mu\text{F}$ ,  $C_O=0.1\mu\text{F}$  unless otherwise specified)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_O$	$I_O=350\text{mA}$ ,	4.8	5	5.2	V
	$7.5\text{V} \leq V_{IN} \leq 20\text{V}$ , $5\text{mA} \leq I_O \leq 350\text{mA}$ ,	4.75	-	5.25	
$\Delta V_O(\text{Line Regulation})$	$7\text{V} \leq V_{IN} \leq 25\text{V}$ , $I_O=200\text{mA}$ ,	-	3	100	mV
	$8\text{V} \leq V_{IN} \leq 12\text{V}$ , $I_O=200\text{mA}$ ,	-	1	50	
$\Delta V_O(\text{Load Regulation})$	$5\text{mA} \leq I_O \leq 500\text{mA}$ ,	-	30	100	mV
	$250\text{mA} \leq I_O \leq 200\text{mA}$ ,	-	12	50	
$I_O$	$I_O=0\text{mA}$ ,	-	3	6	mA
$\Delta I_O$	$5\text{mA} \leq I_O \leq 350\text{mA}$	-	-	0.5	mA
	$8\text{V} \leq V_{IN} \leq 25\text{V}$ , $I_O=200\text{mA}$	-	-	0.8	
$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$	-	40	-	$\mu\text{A}$
RR	$8\text{V} \leq V_{IN} \leq 18\text{V}$ , $f=120\text{Hz}$ , $I_O=100\text{mA}$ , $e_{in}=1\text{Vrms}$	62	-	-	dB
$V_D$	$I_O=500\text{mA}$	-	2	-	V
$I_{SC}$	$V_{IN}=25\text{V}$	-	400	-	mA
$I_{PK}$	$T_j=25^\circ\text{C}$	-	700	-	mA
$\Delta V_O / \Delta T_j$	$I_O=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 25^\circ\text{C}$	-	-1	-	$\text{mV}/^\circ\text{C}$

## TYPICAL APPLICATION

