

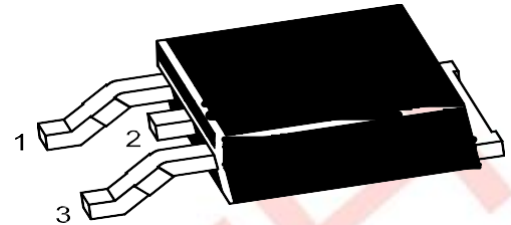
AT78M05TE

3-Terminal Voltage Regulator

Features

- ◆ Input Voltage up to 35V
- ◆ Output Voltage:5V
Output Current: 0.5A (Max)
- ◆ Overload Protection and Short-Circuit Limiting.

TO-252



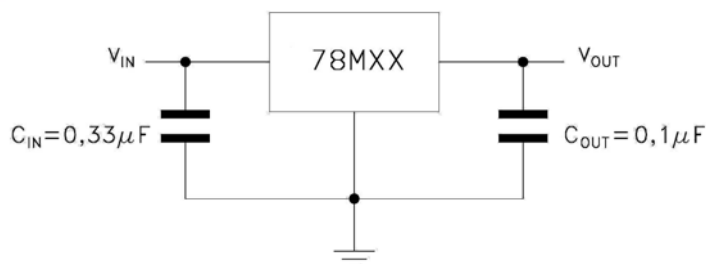
1 · IN 2 · GND 3 · OUT

Absolute Maximum Ratings

Ratings at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-Case	$R_{\theta JC}$	8.0	$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_{OPR}	-40~125	$^\circ\text{C}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$

Application Circuit



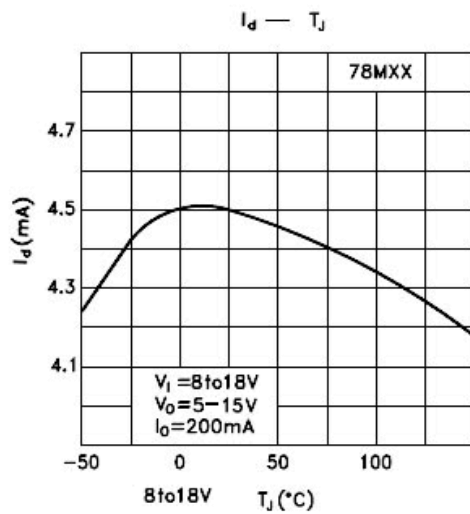
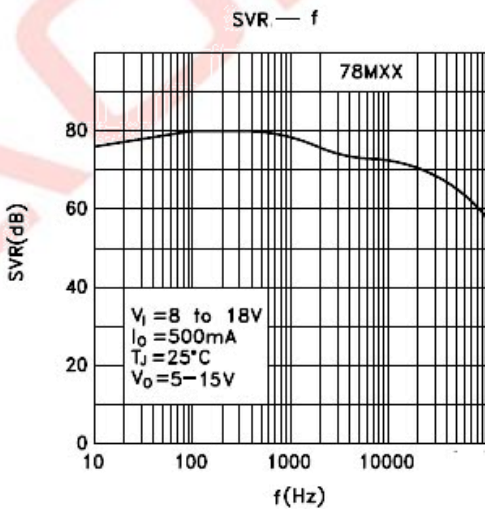
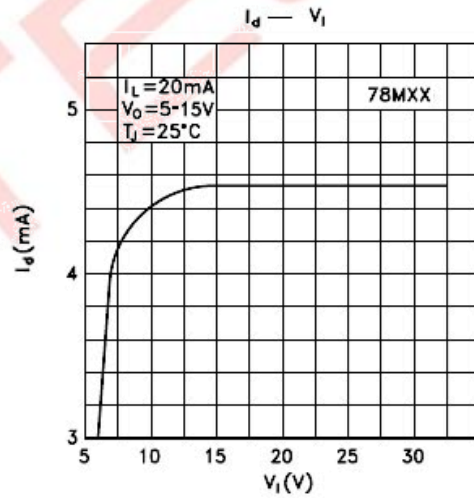
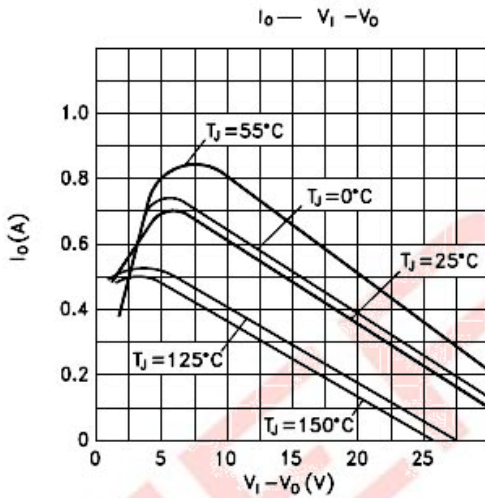
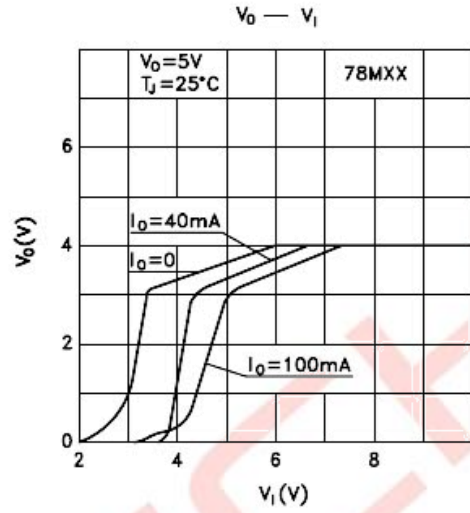
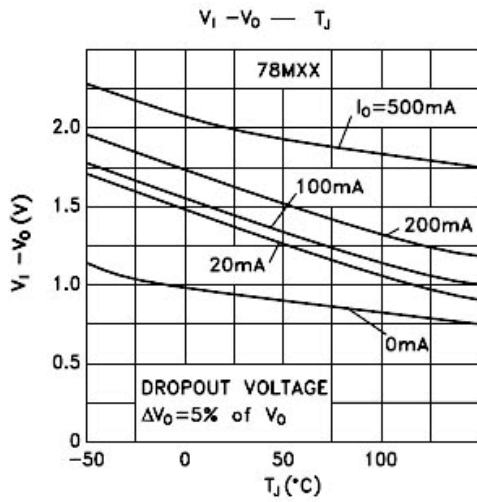
AT78M05TE

Electrical Characteristics

Ratings at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25^\circ\text{C}$	4.9	5	5.1	V
		$V_i=7\text{V}\sim 20\text{V}$ $I_o=5\text{mA}\sim 350\text{mA}$	4.8	5	5.2	V
Load Regulation	ΔV_O	$I_o=5\text{mA}\sim 500\text{mA}$ $T_J=25^\circ\text{C}$	-	-	100	mV
		$I_o=5\text{mA}\sim 200\text{mA}$ $T_J=25^\circ\text{C}$	-	-	50	mV
Line Regulation	ΔV_O	$V_i=7\text{V}\sim 25\text{V}$ $T_J=25^\circ\text{C}$	-	-	100	mV
		$V_i=8\text{V}\sim 25\text{V}$ $T_J=25^\circ\text{C}$	-	-	50	mV
Output Noise Voltage	eN	$B=10\text{Hz}\sim 100\text{KHz}$ $T_J=25^\circ\text{C}$	-	40	-	μV
Ripple Rejection	RR	$V_i=8\text{V}\sim 18\text{V}$ $f=120\text{Hz}$	62	-	-	dB
Short Circuit Current	Isc	$V_i=35\text{V}$ $T_J=25^\circ\text{C}$	-	300	-	mA
Quiescent Current	Iq	$T_J=25^\circ\text{C}$	-	-	6	mA
Quiescent Current Change	ΔI_q	$V_i=8\text{V}\sim 25\text{V}$	-	-	0.8	mA
		$I_o=5\text{mA}\sim 350\text{mA}$	-	-	0.5	mA
Output Voltage Drift	$\Delta V_O/\Delta T$	$I_o=5\text{mA}$	-	-0.5	-	$\text{mV}/^\circ\text{C}$
Dropout Voltage	V_D	$T_J=25^\circ\text{C}$	-	2	-	V
Short Circuit Peak Current	Iscp	$T_J=25^\circ\text{C}$	-	700	-	mA

Electrical Characteristics Curves

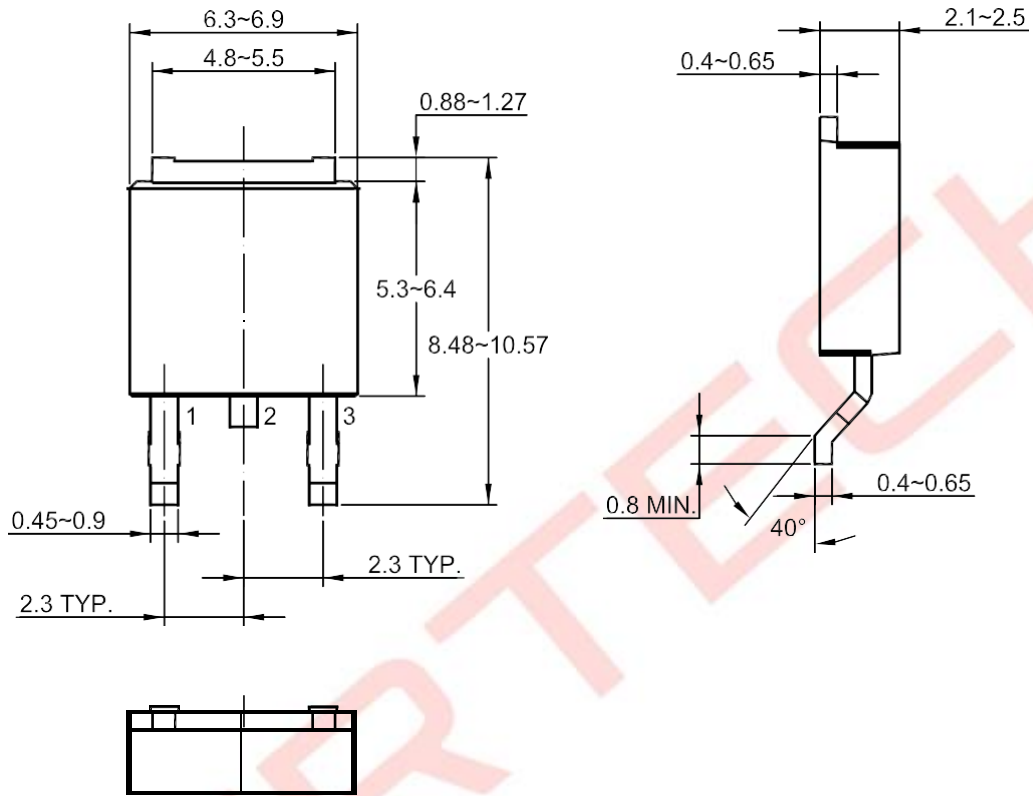


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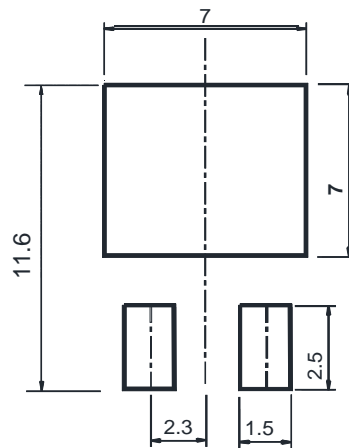
Package Outline

TO-252

Dimensions in Millimeters



Recommended Soldering Footprint



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