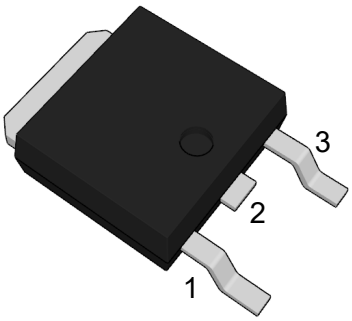
PJ79MXXTE
3-Terminal Voltage Regulators

Description

The PJ79MXXTE series of three-terminal negative regulators are available in TO-252 package. Each type employs internal current limiting, thermal shut-down and safe area protection, making it essentially indestructible. If adequate heat sinking is provided,It can deliver 0.5A output current, Although designed as fixed voltage regulator, This device can be used with external components to obtain adjustable voltage and currents.

TO-252



1. GND 2. VIN 3. VOUT

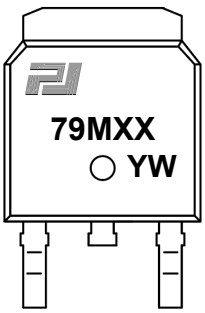
Features

- Input voltage: up to -35V
- Output voltage: -5V,-12V,-15V
- Output current up to 500 mA
- Thermal overload protection
- Short circuit current limiting

Applications

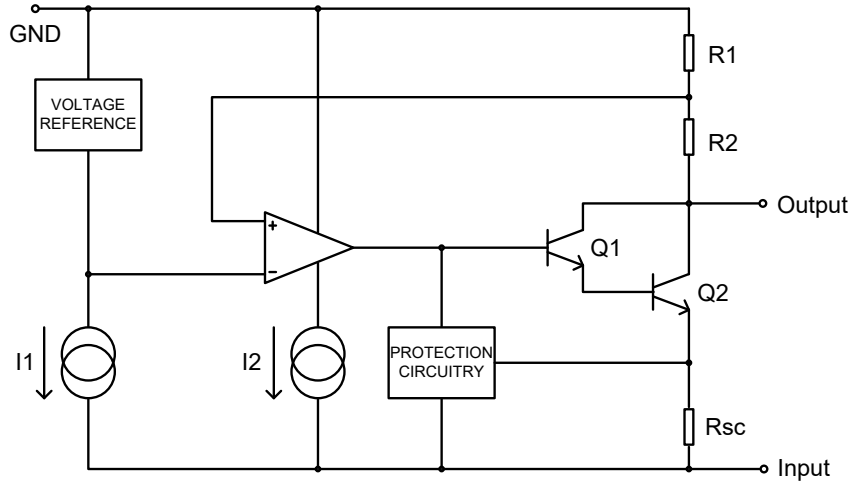
- DC motor drivers
- Household electric appliances
- Industrial power supplies
- Test and measurement equipment

Ordering Information

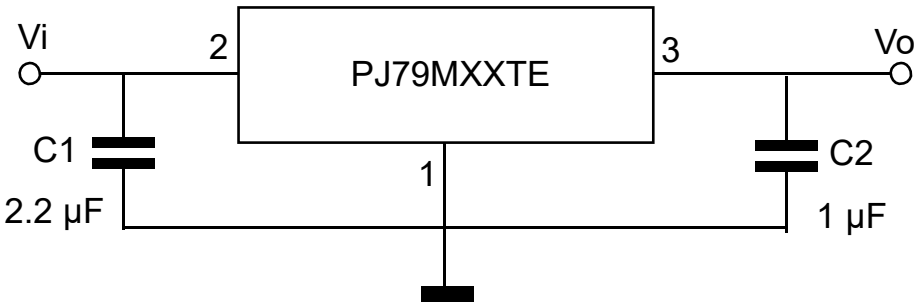
Orderable Device	Package	Reel (inch)	Package Qty (PCS)	Eco Plan [Note]	MSL Level	Marking Code
PJ79M05TE	TO-252	13	2500	RoHS & Green	MSL3	 79MXX: Product code e.g. PJ79M05TE:79M05 YW: Year code and Week code
PJ79M12TE						
PJ79M15TE						

Note:
RoHS：PJ defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials.
Green：PJ defines "Green" to mean Halogen-Free and Antimony-Free.

Function Block Diagram



Typical Application Circuit



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	$-V_I$	35	V
Output Current	I_O	500	mA
Maximum Power Dissipation	P_D	1.25	W
Operating Temperature Range	T_{OPR}	-40 to +125	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

PJ79M05TE Electrical Characteristics

V_I=-10V, I_O=250mA, T_J=25℃, C_I=2.2μF, C_O=1μF,unless otherwise specified.

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	$-V_O$		4.8	5.0	5.2	V
		I_O=5mA to 350mA V_I=-7V to -20V	4.75	5.0	5.25	V
Line Regulation	$\triangle V_O$	V_I=-7V to -25V	--	--	100	mV
		V_I=-8V to-12V	--	--	50	mV
Load Regulation	$\triangle V_O$	I_O=5mA to 0.5A	--	--	100	mV
		I_O=150mA to 350mA	--	--	50	mV
Ripple Rejection	RR	$\triangle V_I$=10V, f=120Hz	45	54	--	dB
Dropout Voltage	V_D	I_O=0.5A	--	2	--	V
Quiescent Current	I_Q		--	--	6	mA
Temperature coefficient of V_O	$\triangle V_O/\triangle T$	I_O=5mA	--	0.5	--	mV/°C
Quiescent Current Change	$\triangle I_Q$	I_O=5mA to 0.5A	--	--	0.5	mA
		V_I=-8V to -25V	--	--	1	mA
Output Noise Voltage	V_N	10Hz≤f≤100kHz,T_A=25°C	--	200	--	μV

PJ79M12TE Electrical Characteristics

V_I=-19V, I_O=250mA, T_J=25℃, C_I=2.2μF, C_O=1μF,unless otherwise specified.

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	$-V_O$		11.5	12	12.5	V
		I_O=5mA to 350mA V_I=-14.5V to -20V	11.4	12	12.6	V
Line Regulation	$\triangle V_O$	V_I=-14.5V to -30V	--	--	240	mV
		V_I=-16V to-22V	--	--	120	mV
Load Regulation	$\triangle V_O$	I_O=5mA to 0.5A	--	--	240	mV
		I_O=150mA to 350mA	--	--	120	mV
Ripple Rejection	RR	$\triangle V_I$=10V, f=120Hz	45	54	--	dB
Dropout Voltage	V_D	I_O=0.5A	--	2	--	V
Quiescent Current	I_Q		--	--	6	mA
Temperature coefficient of V_O	$\triangle V_O/\triangle T$	I_O=5mA	--	0.5	--	mV/°C
Quiescent Current Change	$\triangle I_Q$	I_O=5mA to 0.5A	--	--	0.5	mA
		V_I=-14.5V to -30V	--	--	0.8	mA
Output Noise Voltage	V_N	10Hz≤f≤100kHz,T_A=25°C	--	200	--	μV

PJ79M15TE Electrical Characteristics

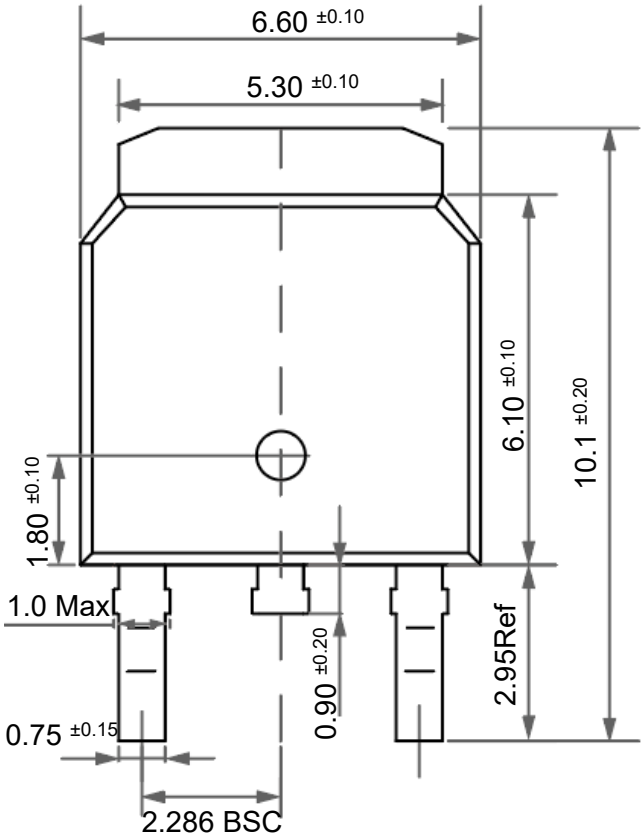
V_I=-23V, I_O=250mA, T_J=25℃, C_I=2.2μF, C_O=1μF,unless otherwise specified.

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	$-V_O$		11.5	12	12.5	V
		I_O=5mA to 350mA V_I=-14.5V to -20V	11.4	12	12.6	V
Line Regulation	$\triangle V_O$	V_I=-14.5V to -30V	--	--	240	mV
		V_I=-16V to-22V	--	--	120	mV
Load Regulation	$\triangle V_O$	I_O=5mA to 0.5A	--	--	240	mV
		I_O=150mA to 350mA	--	--	120	mV
Ripple Rejection	RR	$\triangle V_I$=10V, f=120Hz	45	54	--	dB
Dropout Voltage	V_D	I_O=0.5A	--	2	--	V
Quiescent Current	I_Q		--	--	6	mA
Temperature coefficient of V_O	$\triangle V_O/\triangle T$	I_O=5mA	--	0.5	--	mV/°C
Quiescent Current Change	$\triangle I_Q$	I_O=5mA to 0.5A	--	--	0.5	mA
		V_I=-14.5V to -30V	--	--	0.8	mA
Output Noise Voltage	V_N	10Hz≤f≤100kHz,T_A=25°C	--	200	--	μV

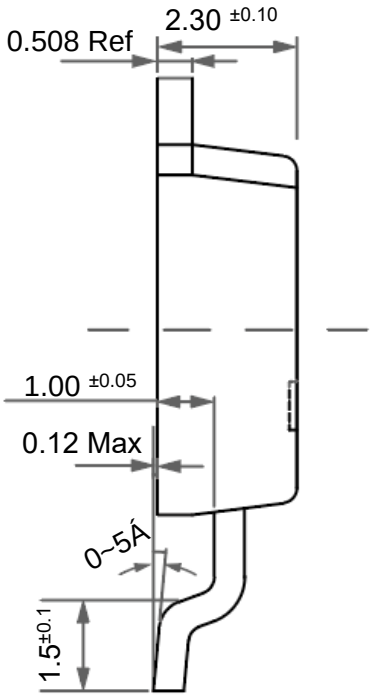
Package Outline

TO-252

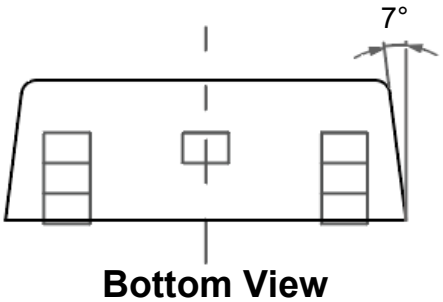
Dimensions in mm



Front View



Side View



Bottom View