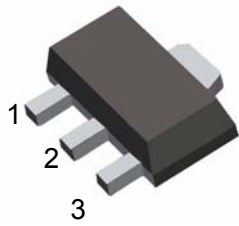
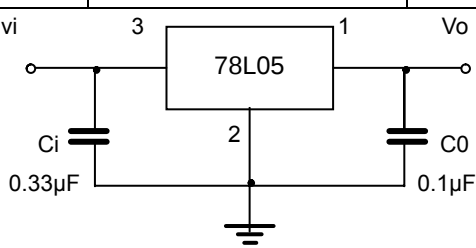
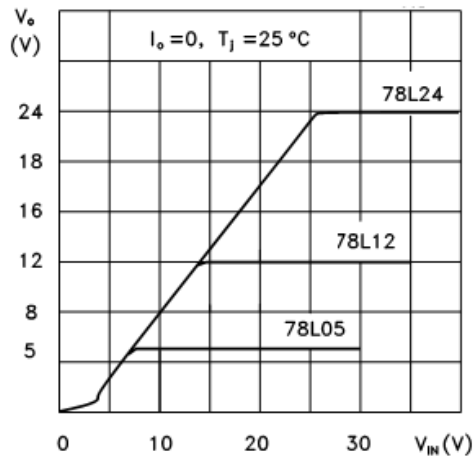


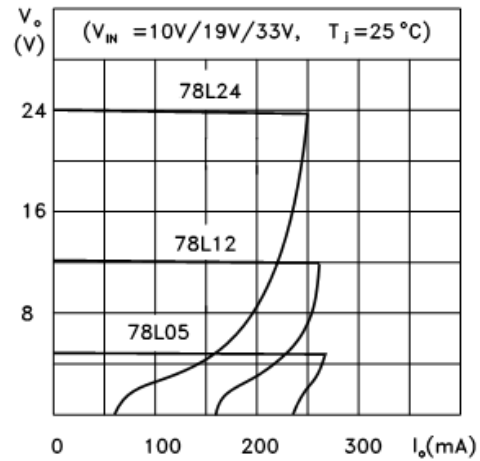
Three-terminal positive voltage regulator		SOT-89 Encapsulate Three Terminal Voltage Regulator					
SOT-89  1. OUT 2. GND 3. IN		Features Maximum Output current I_O: 0.1 A Output voltage V_O: 5 V Continuous total dissipation P_D: 0.5 W ($T_a = 25\text{ }^{\circ}\text{C}$)					
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)							
Parameter	Symbol	Value	Unit				
Input Voltage	V_I	30	V				
Operating Junction Temperature Range	T_{OPR}	0~+125	$^{\circ}\text{C}$				
Storage Temperature Range	T_{STG}	-40~+125	$^{\circ}\text{C}$				
ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_I=10\text{V}, I_O=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)							
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	V_O	25°C	4.8	5.0	5.2	V	
		7V≤ V_I ≤20V, $I_O=1\text{mA} \sim 40\text{mA}$	0-125 $^{\circ}\text{C}$	4.75	5.0	5.25	V
				$I_O=1\text{mA} \sim 70\text{mA}$	4.75	5.0	5.25
Load Regulation	ΔV_O	$I_O=1\text{mA} \sim 100\text{mA}$	25°C		15	60	mV
		$I_O=1\text{mA} \sim 40\text{mA}$	25°C		8	30	mV
Line regulation	ΔV_O	7V≤ V_I ≤20V			32	150	mV
		8V≤ V_I ≤20V	25°C		26	100	mV
Quiescent Current	I_q	25°C		3.8	6	mA	
Quiescent Current Change	ΔI_q	8V≤ V_I ≤20V	0-125 $^{\circ}\text{C}$		1.5	mA	
	ΔI_q	1mA≤ V_I ≤40mA	0-125 $^{\circ}\text{C}$		0.1	mA	
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25°C		42	uV	
Ripple Rejection	RR	8V≤ V_I ≤20V, f=120Hz	0-125 $^{\circ}\text{C}$	41	49	dB	
Dropout Voltage	V_d	25°C		1.7		V	
TYPICAL APPLICATION 							
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.							

Typical Characteristics

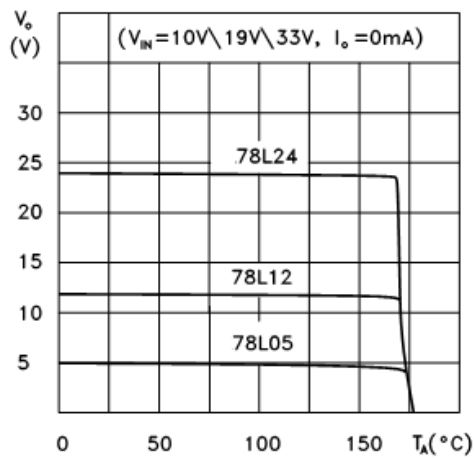
78L05/12/24 Output Characteristics



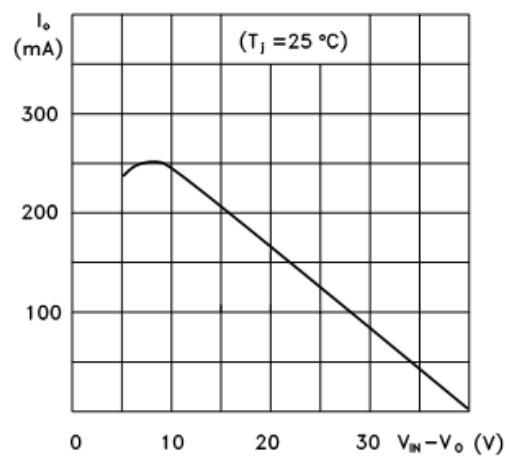
78L05/12/24 Load Characteristics



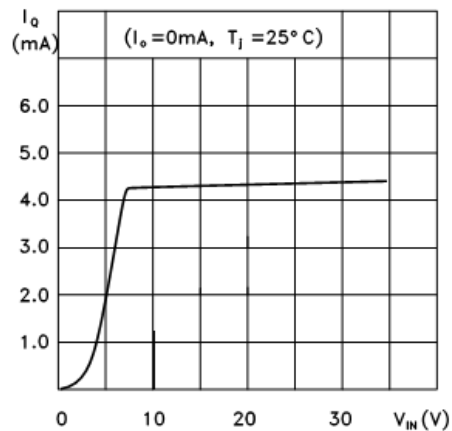
78L05/12/24 Thermal Shutdown



78L00 Series Short Circuit Output Current



78L05 Quiescent Current vs Input Voltage



PD-TA

