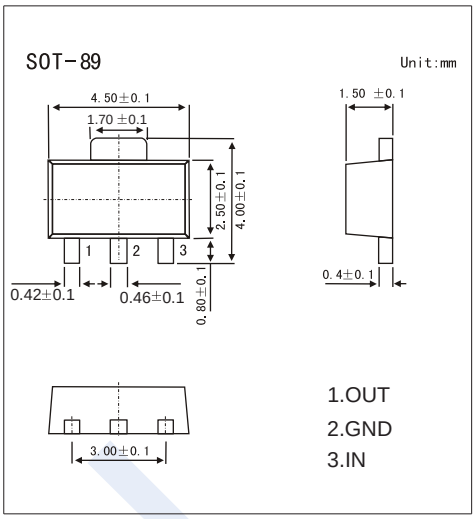
Three-Terminal Positive Voltage Regulator

KA180O15



■ Features

- Maximum Output current I_O: 0.1A
- Output Voltage V_O: 15V
- Continuous Total Dissipation P_D: 0.5W (T_a = 25℃)
- Marking Code: KL15

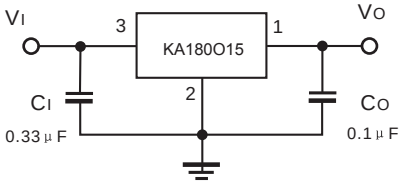
■ Absolute Maximum Ratings (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Rating	Unit
Input Voltage	V_I	35	V
Operating Junction Temperature Range	T_{OPR}	-55 ～ +125	℃
Storage Temperature Range	T_{STG}	-55 ～ +150	℃

■ Electrical Characteristics (V_I=23V, I_O=40mA,C_I=0.33μF,C_O=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_O	T_J = 25℃	14.4	15	15.6	V
		T_J = 0～125℃, 17.5V≤V_I≤30V, I_O=1mA～40mA	14.25	15	15.75	V
		T_J = 0～125℃, V_I = 23V, I_O=1mA～70mA	14.25	15	15.75	V
Load Regulation	$\triangle V_O$	T_J = 25℃, V_I = 23V, I_O=1mA～100mA		25	150	mV
		T_J = 25℃, V_I = 23V, I_O=1mA～40mA		15	75	mV
Line Regulation	$\triangle V_O$	T_J = 25℃, 17.5V≤V_I≤30V, I_O = 40mA		65	300	mV
		T_J = 25℃, 19V≤V_I≤30V, I_O = 40mA		58	250	mV
Quiescent Current	I_Q	T_J = 25℃		4.6	6.5	mA
Quiescent current Change	$\triangle I_Q$	T_J = 0～125℃, 19V≤V_I≤30V, I_O = 40mA			1.5	mA
		T_J = 0～125℃, V_I = 23V, 1mA≤I_O≤40mA			0.1	
Output Noise Voltage	V_N	T_J = 25℃, 10Hz≤f≤100KHz		82		μV
Ripple Rejection	RR	T_J = 0～125℃, 18.5V≤V_I≤28.5V, f = 120Hz	34	39		dB
Dropout Voltage	V_D	T_J = 25℃		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.

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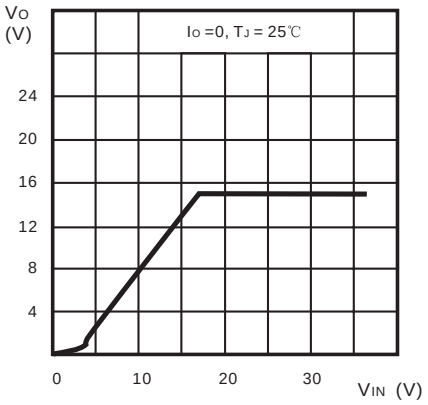
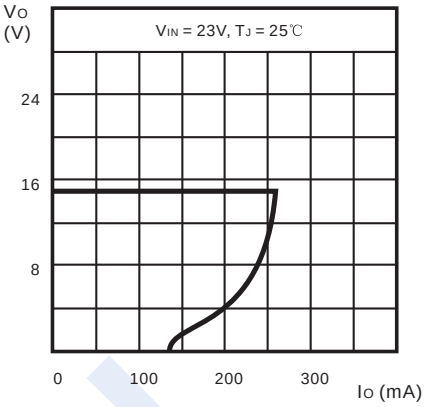
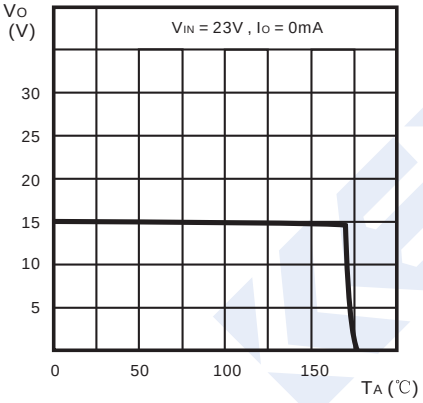
■ Typical Characteristics



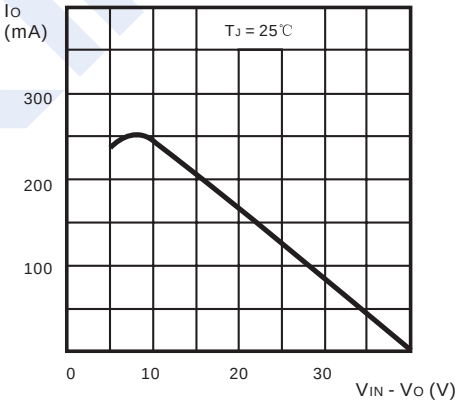
Output Characteristics



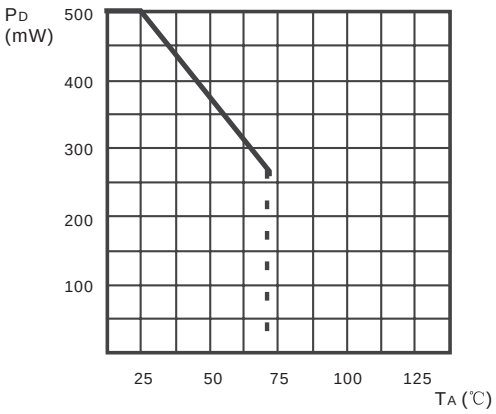
Load Characteristics



Thermal Shutdown



Short Circuit Output Current



Power Dissipation vs. Ambient Temperature