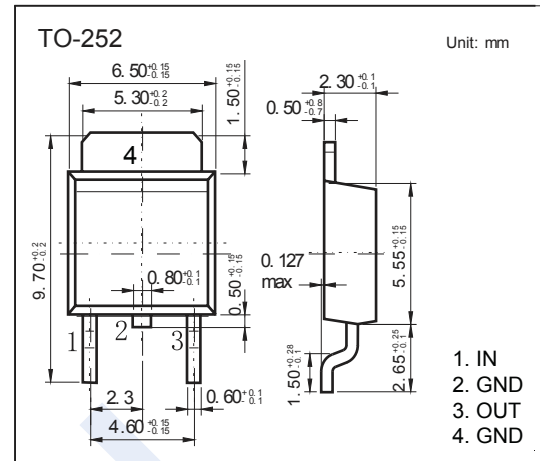


## Three Terminal Positive Voltage Regulator

### KA280M12

#### ■ Features

- Maximum Output Current:  
 $I_{OM} = 500\text{mA}$
- Output Voltage:  
 $V_O = 12\text{V}$
- Continuous Total Dissipation:  
 $PD: 1.25\text{W}$  ( $T_a = 25^\circ\text{C}$ )



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

Parameter	Symbol	Rating	Unit
Input Voltage	$V_i$	35	V
Maximum Output Current	$I_o$	0.5	A
Thermal Resistance, Junction-to-Ambient	$R_{thJA}$	80	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_{OPR}$	-25 to 125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to 150	

#### ■ Electrical Characteristics at Specified Virtual Junction Temperature

( $V_i = 19\text{V}$ ,  $I_o = 350\text{mA}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	$25^\circ\text{C}$	11.5	12	12.5	V
		$14.5\text{V} \leq V_i \leq 27\text{V}$ , $5\text{mA} \leq I_o \leq 350\text{mA}$	-25 ~ 125 $^\circ\text{C}$	11.4	12	
Load Regulation	$\Delta V_o$	$5\text{mA} \leq I_o \leq 500\text{mA}$	$25^\circ\text{C}$		240	mV
		$5\text{mA} \leq I_o \leq 200\text{mA}$	$25^\circ\text{C}$		120	
Line Regulation	$\Delta V_o$	$14.5\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 200\text{mA}$	$25^\circ\text{C}$		100	mV
		$16\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 200\text{mA}$	$25^\circ\text{C}$		50	
Quiescent Current	$I_q$	$25^\circ\text{C}$			6	mA
Quiescent Current Change	$\Delta I_q$	$14.5\text{V} \leq V_i \leq 30\text{V}$ , $I_o = 200\text{mA}$	-25 ~ 125 $^\circ\text{C}$		0.8	
		$5\text{mA} \leq I_o \leq 350\text{mA}$	-25 ~ 125 $^\circ\text{C}$		0.5	
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{kHz}$	$25^\circ\text{C}$	75		$\mu\text{V}/V_o$
Ripple Rejection	RR	$15\text{V} \leq V_i \leq 25\text{V}$ , $f = 120\text{Hz}$ , $I_o = 300\text{mA}$	-25 ~ 125 $^\circ\text{C}$	55		dB
Dropout Voltage	$V_d$	$I_o = 350\text{mA}$	$25^\circ\text{C}$	2		V
Short Circuit Current Limit	$I_{sc}$	$V_i = 19\text{V}$	$25^\circ\text{C}$	240		mA
Peak Current	$I_{pk}$		$25^\circ\text{C}$	0.7		A

\* Pulse test.

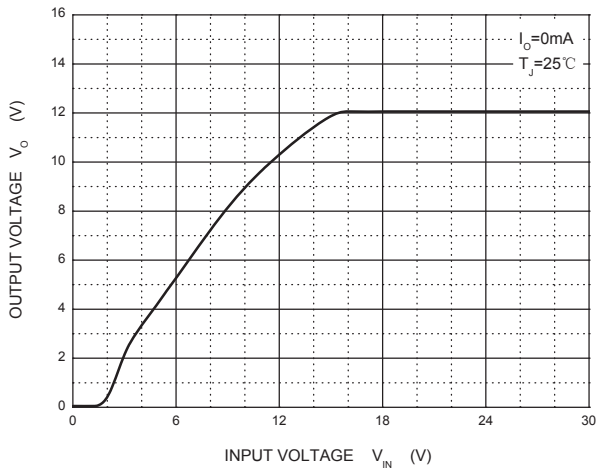
#### ■ Marking

Marking	KM12

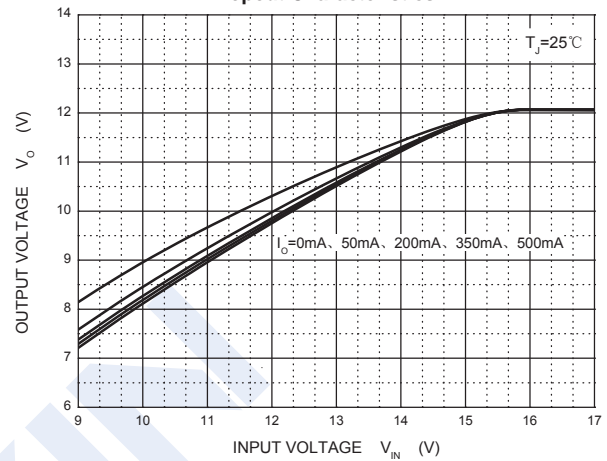
## Three Terminal Positive Voltage Regulator KA280M12

### ■ Typical Characteristics

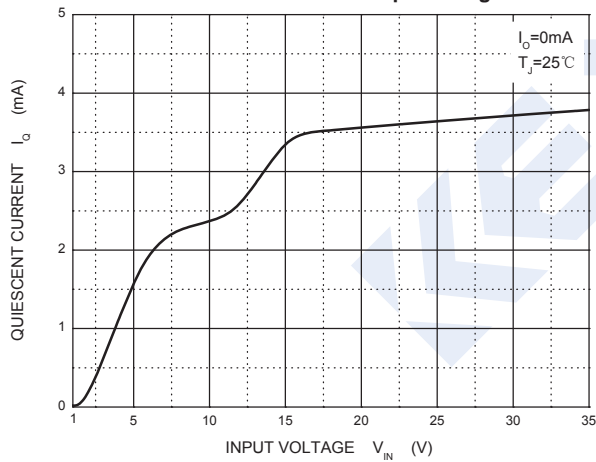
Output Characteristics



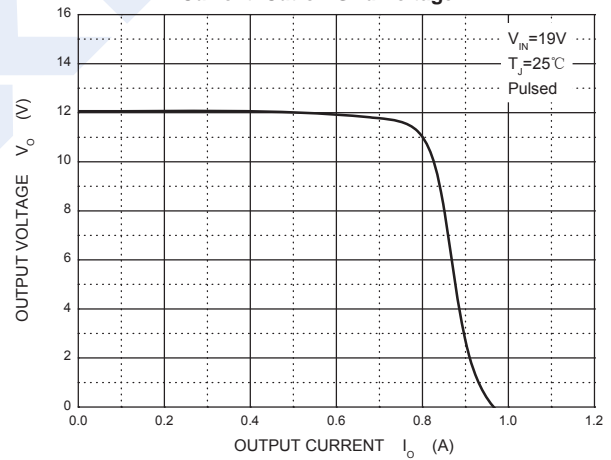
Dropout Characteristics



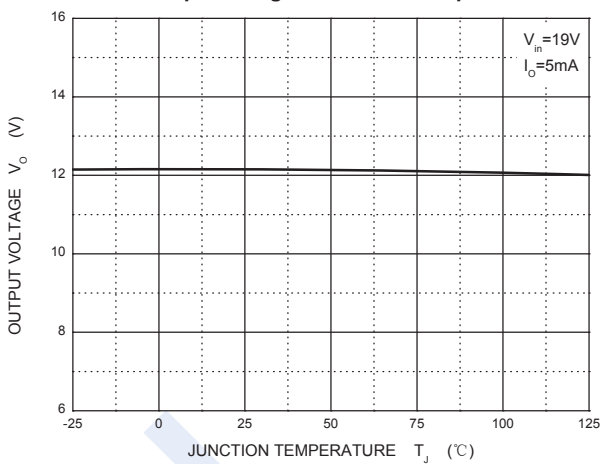
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve

