

Switchable Current Regulators

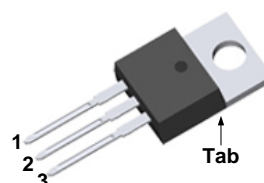
General Features

- On/Off Switchable Current Source
- Fast Switching Speed
- RoHS Compliant
- Halogen-free available

V_{AK}	$R_{AK(typ)}$	I_A
600 V	55kΩ	1 ~ 100 mA

Applications

- SMPS Start-up Circuit
- Highly Stable Voltage Source
- Surge Limiters and Voltage Protection
- Fast Reacting Resettable Fuses
- Soft Start Circuits

TO-220AB


Pin Connections

1 = G, Control Terminal;
 2 and Tab = A (+), Positive Terminal;
 3 = K (-), Negative Terminal

Ordering Information

Part Number	Package	Marking
AKP10M60R	TO-220	10M60

Absolute Maximum Ratings

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

Symbol	Test Conditions	AKP10M60R	Unit
V_{AKR}	$T_J = 25^{\circ}\text{C}$ to 150°C	600	V
V_{AGK}	$T_J = 25^{\circ}\text{C}$ to 150°C	600	V
I_A	$T_c = 25^{\circ}\text{C}$	0.1	A
P_D	$T_c = 25^{\circ}\text{C}$	40	W
V_{GKR}		± 20	V
T_L	Soldering Temperature Distance of 1.6mm from case for 10 seconds	300	$^{\circ}\text{C}$
T_J and T_{STG}	Operating and Storage Temperature	-55 to 150	

Electrical Characteristics

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

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
V_{AKR}	$R_K = 300\Omega$, (Fig.1)	600	--	--	V
$I_{A(P)}$	$V_D = 10\text{V}$, $R_K = 300\Omega$, (Fig.1)	--	10	--	mA
$V_{GK(OFF)}$	$I_{A(P)} = 100\mu\text{A}$, $V_D=600\text{V}$, (Fig.2)	-5.5	--	-3.5	V
$I_{A(P)}$	$V_D = 480\text{V}$, $V_{GK} = -10\text{V}$	--	--	20	μA
$\Delta V_{AK} / \Delta I_{A(P)}$	Dynamic Resistance, $V_D = 100\text{V}$, $V_{GK}=0\text{V}$	10	--	--	k Ω
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case			3.1	K/W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient			80	K/W

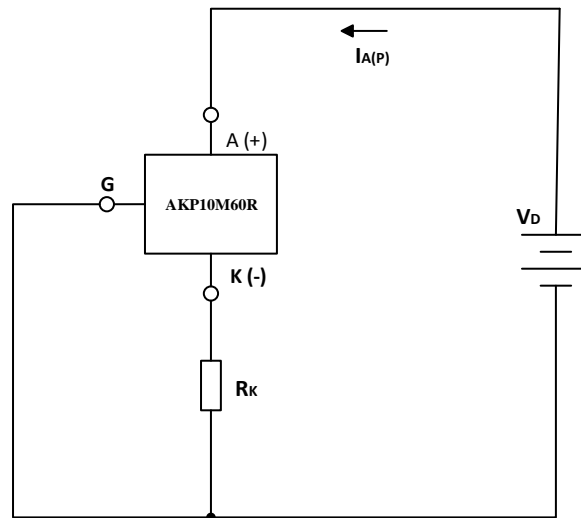


Fig.1. Resistor R_k in Series with Negative Pin to Achieve Different Current Levels

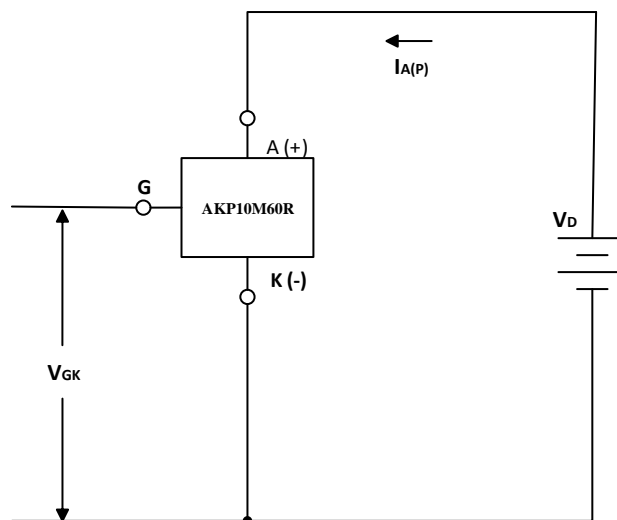
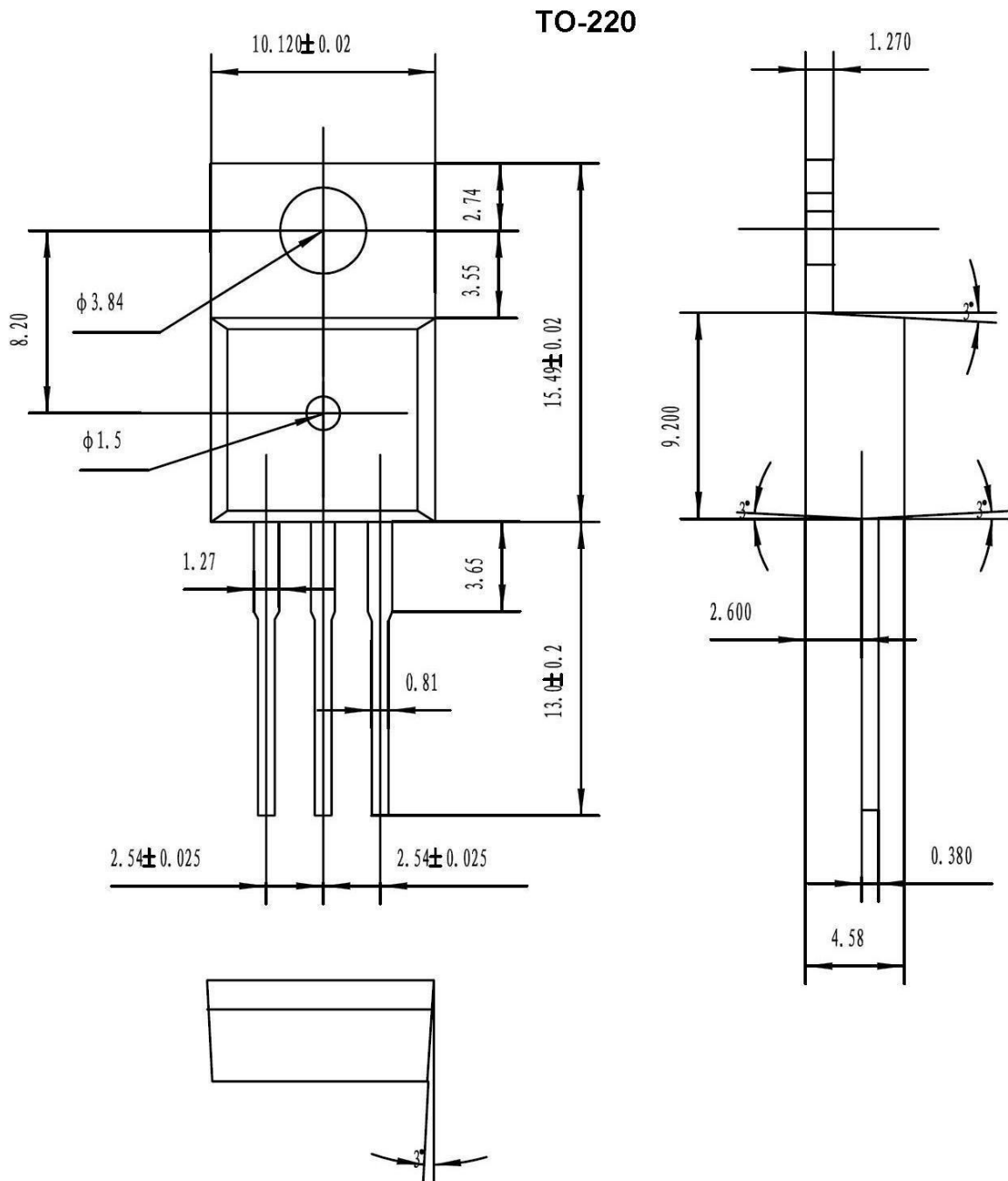


Fig.2. Current Regulator Controlled by V_{GK}

Package Dimensions

TO-220





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