Switchable Current Regulators

**IXCP10M90S**

**IXCY10M90S**

- **Switchable Current Source**
- **International Standard Packages**
  - JEDEC TO-220 and TO-252
- **Applications**
  - Start-Up Circuits for SMPS
  - Highly Stable Voltage Sources
  - Surge Limiters and Voltage Protection
  - Fast Reacting Resetable Fuses
  - Soft Start-Up Circuits

**Symbol** | **Test Conditions** | **Maximum Ratings** |
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$V_{AK}$ | $T_J = 25^\circ C$ to $150^\circ C$ | $900 V$ |
$V_{AG}$ | $T_J = 25^\circ C$ to $150^\circ C$ | $900 V$ |
$V_{OK}$ | $\pm 20 V$ |
$I_{A}$ | $T_C = 25^\circ C$ | $0.3 A$ |
$P_{D}$ | $T_C = 25^\circ C$ | $40 W$ |
$T_J$ | $-55 ... +150^\circ C$ |
$T_{RM}$ | | $150^\circ C$ |
$T_{th}$ | $-55 ... +150^\circ C$ |
$T_C$ | | $300^\circ C$ |
$T_{SOLD}$ | Plastic Body for 10s | $260^\circ C$ |
$M_d$ | Mounting Torque (TO-220) | 1.13 / 10 Nm/lb.in. |

**Weight**
- TO-252: 0.35 g
- TO-220: 3.00 g

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**Features**
- 40W Continuous Dissipation
- International Standard Packages
- JEDEC TO-220 and TO-252
- On/Off Switchable Current Source

**Applications**
- Start-Up Circuits for SMPS
- Highly Stable Voltage Sources
- Surge Limiters and Voltage Protection
- Fast Reacting Resetable Fuses
- Soft Start-Up Circuits
Fig. 1 Resistor $R_K$ in Series with Negative Pin to Achieve Different Current Levels

![Diagram of resistor in series with negative pin](image1)

$V_{GK} = 0V$
$V_{D(p)} = 50V$

$T_J = 125^\circ C$

$T_J = 25^\circ C$

$V_{GK} = 0V$
$V_{D(p)} = 50V$

Fig. 2. Plateau Current vs. External Resistance

![Diagram showing plateau current vs. external resistance](image2)

$V_{GK} = 0V$
$V_{D(p)} = 50V$

Fig. 3. Current Regulator Controlled by $V_{GK}$

![Diagram showing current regulator](image3)

$V_{GK} = 50V$

$V_D = 50V$

$T_J = 125^\circ C$

$T_J = 25^\circ C$

Fig. 4. Plateau Current vs. Applied Input Voltage

![Diagram showing plateau current vs. input voltage](image4)

$V_{GK} = 0V$
$V_{D(p)} = 50V$

$T_J = 125^\circ C$

$T_J = 25^\circ C$

IXYS Reserves the Right to Change Limits, Test Conditions, and Dimensions.