

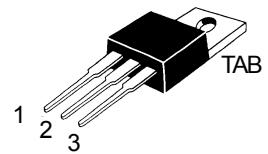
Switchable Current Regulators

**IXCP10M90S
IXCY10M90S**

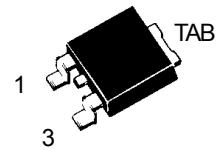
**V_{AK} = 900 V
I_{A(P)} = 1 - 100 mA
R_{DYN} = 100 kΩ**

Symbol	Test Condition	Maximum Ratings		
V _{AKR}	T _j = 25°C to 150°C	900	V	
V _{AGR}	T _j = 25°C to 150°C	900	V	
V _{GK}		±20	V	
I _D	T _c = 25°C	-0.3	A	
P _D	T _c = 25°C	40	W	
T _j		-55 ... +150	°C	
T _{stg}		-55 ... +150	°C	
T _L	Temperature for Soldering (max. 10 s)	260	°C	
M _D	Mounting torque with screw M3 (TO-220) with screw M3.5 (TO-220)	0.45/4 0.55/5	Nm/lb.in. Nm/lb.in.	

**TO-220 AB
(IXCP)**



**TO-252 AA
(IXCY)**



Pin connections

- 1 = Gate(G), Control terminal;
- 2 and tab = A (+) Positive terminal
- 3 = K (-), Negative terminal

Features

- Minimum of 900 V breakdown
- Resistor programmable current source
- 40 W continuous dissipation
- International standard packages JEDEC TO-220 and TO-252
- On/Off switchable current source

Applications

- Highly stable voltage sources
- Current surge limiters
- Transient voltage protection
- Instantaneously reacting resetable fuses
- Soft start-up circuits

Symbol	Test Condition	Characteristic Values		
		(T _j = 25°C unless otherwise specified)	min.	typ.
V _{AKR}	R _K = 300 Ω; (Fig. 1)	900		V
I _{A(P)}	V _D = 10 V; R _K = 300 Ω; (Fig. 2)	7	9	mA
V _{GK(off)}	I _D = 100 μA; V _D = 900 V Fig. 4	-5		V
I _{D(P)}	V _D = 720 V; V _{GK} = -10 V (Fig. 1)		25	μA
ΔV _{AK} /Δ I _{A(P)}	Dynamic resistance; V _D = 10 V R _K = 300 Ω; (Fig. 1)	100		kΩ
R _{thJC}	Thermal Resistance junction-to-case		3.1	K/W
R _{thJA}	Thermal Resistance junction-to-ambient TO-220 TO-252		80 100	K/W

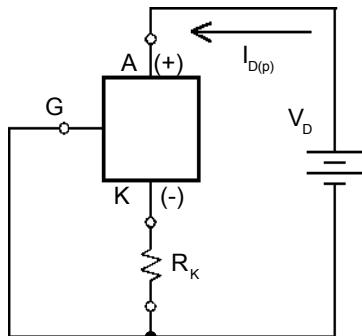


Fig. 1 Resistor R_K in series with negative pin to achieve different current levels

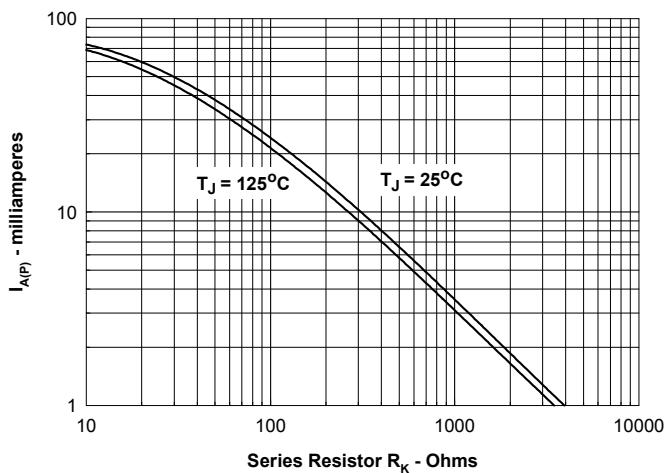


Fig. 2. Plateau current versus external resistance

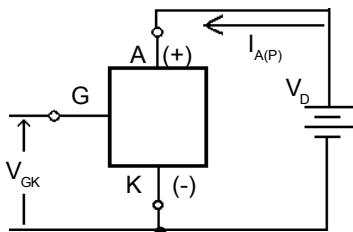


Fig. 3. Current regulator controlled by V_G

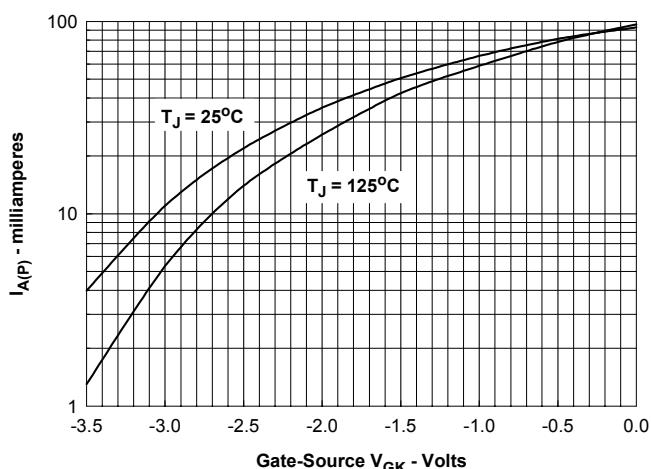
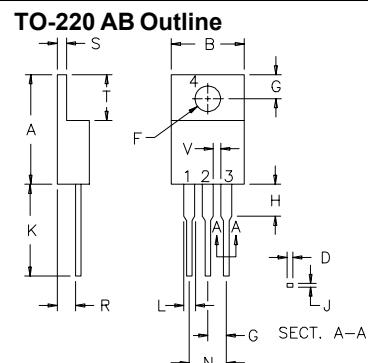
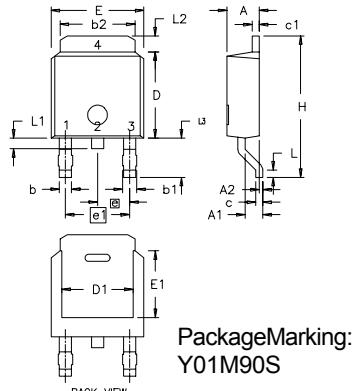


Fig. 4. Plateau current versus applied input voltage



Dim.	Millimeter Min.	Millimeter Max.	Inches Min.	Inches Max.
A	14.23	16.51	.560	.650
B	9.66	10.66	.380	.420
C	3.56	4.82	.140	.190
D	0.64	0.89	.025	.035
F	3.54	4.06	.139	.161
G	2.29	2.79	.090	.110
H	—	6.35	—	.250
J	0.51	0.76	.020	.030
K	12.70	14.73	.500	.580
L	1.15	1.77	.045	.070
N	4.83	5.33	.190	.210
Q	2.54	3.42	.100	.135
R	2.04	2.49	.080	.115
S	0.64	1.39	.025	.055
T	5.85	6.85	2.30	2.70
V	1.15	—	.045	—

TO-252 AA Outline



PackageMarking:
Y01M90S

Dim.	Millimeter Min.	Millimeter Max.	Inches Min.	Inches Max.
A	2.19	2.38	0.086	0.094
A1	0.89	1.14	0.035	0.045
A2	0	0.13	0	0.005
b	0.64	0.89	0.025	0.035
b1	0.76	1.14	0.030	0.045
b2	5.21	5.46	0.205	0.215
c	0.46	0.58	0.018	0.023
c1	0.46	0.58	0.018	0.023
D	5.97	6.22	0.235	0.245
D1	4.32	5.21	0.170	0.205
E	6.35	6.73	0.250	0.265
E1	4.32	5.21	0.170	0.205
e	2.28 BSC	—	0.090 BSC	—
e1	4.57 BSC	—	0.180 BSC	—
H	9.40	10.42	0.370	0.410
L	0.51	1.02	0.020	0.040
L1	0.64	1.02	0.025	0.040
L2	0.89	1.27	0.035	0.050
L3	2.54	2.92	0.100	0.115

IXYS reserves the right to change limits, test conditions, and dimensions.

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents: 4,835,592 4,881,106 5,017,508 5,049,961 5,187,117 5,486,715
4,850,072 4,931,844 5,034,796 5,063,307 5,237,481 5,381,025