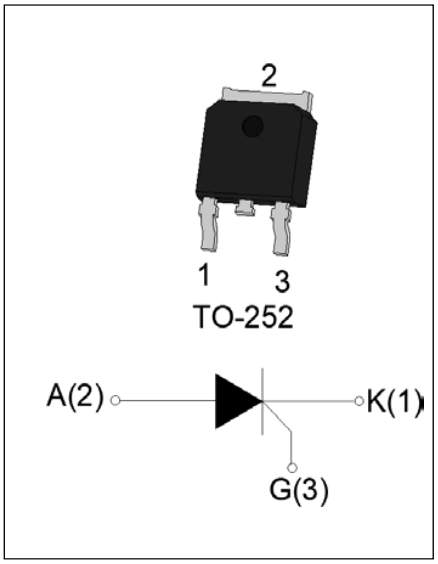
C106MS 4A SCR

Rev.A.2.0

DESCRIPTION

The C106MS SCR provides high dV/dt rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Package TO-252 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	≤200	μA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40~150	℃
Operating junction temperature range	T_j	-40~125	℃
Repetitive peak off-state voltage (T_j=25℃)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25℃)	V_{RRM}	600	V
Average on-state current (TC≤93℃)	$I_{T(AV)}$	2.5	A
RMS on-state current (TC≤93℃)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (t_p=10ms, T_j=25℃)	I_{TSM}	40	A
Non repetitive surge peak on-state current (t_p=8.3ms, T_j=25℃)		44	A
I^2t value for fusing (t_p=10ms, T_j=25℃)	I^2t	8	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT}, f=100Hz, T_j=125℃)	dI/dt	50	A/μs
Peak gate current (t_p=20μs, T_j=125℃)	I_{GM}	2	A
Average gate power dissipation (T_j=125℃)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W
Peak pulse voltage (T_j=25℃, non-repetitive, off-state)	V_{PP}	0.5	kV

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ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	V_D=V_{DRM} T_j=125℃	0.2	-	-	V
I_L	I_G=1.2 I_{GT}	-	-	6	mA
I_H	I_T=0.05A	-	-	5	mA
dV/dt	V_D=400V T_j=125℃ R_{GK}=1KΩ	50	-	-	V/μs
	V_D=400V T_j=125℃ R_{GK}=220Ω	200	-	-	
t_{on}	I_G=10mA I_A=20mA I_R=2mA T_j=25℃	-	2	-	μs
t_{off}		-	50	-	μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=2A t_p=380μs	T_j=25℃	1.6	V
V_{TO}	Threshold voltage	T_j=125℃	0.8	V
R_D	Dynamic resistance	T_j=125℃	0.1	Ω
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	0.5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	6	℃/W
$R_{th(j-a)}$	junction to ambient (DC)	120	℃/W

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FIG.1 Maximum power dissipation versus RMS on-state current

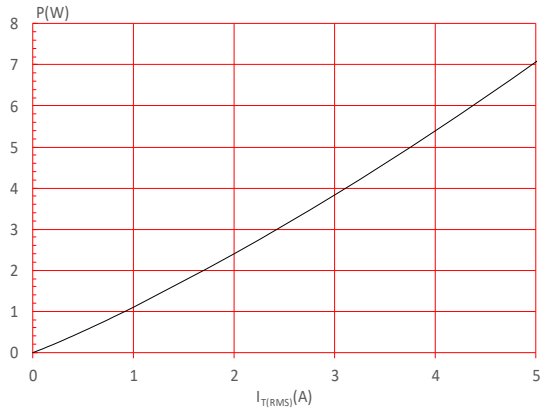


FIG.2: RMS on-state current versus case temperature

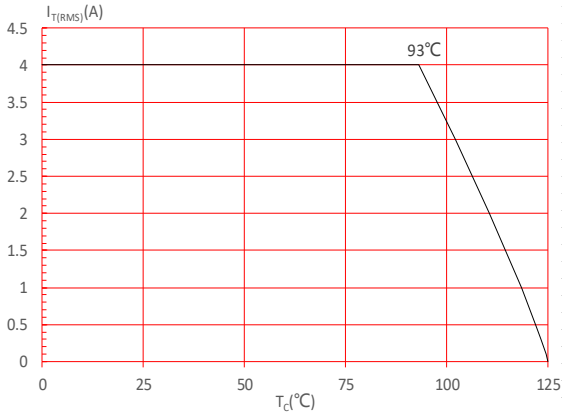


FIG.3: Surge peak on-state current versus number of cycles

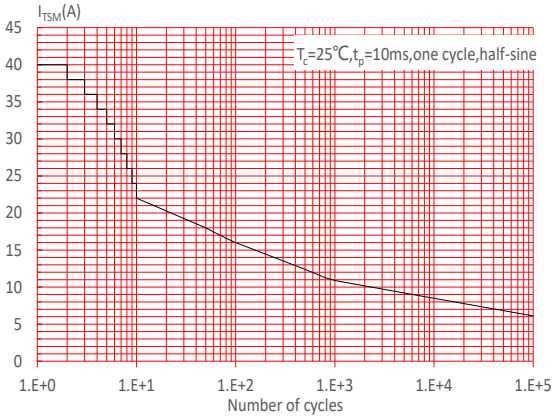


FIG.4: On-state characteristics

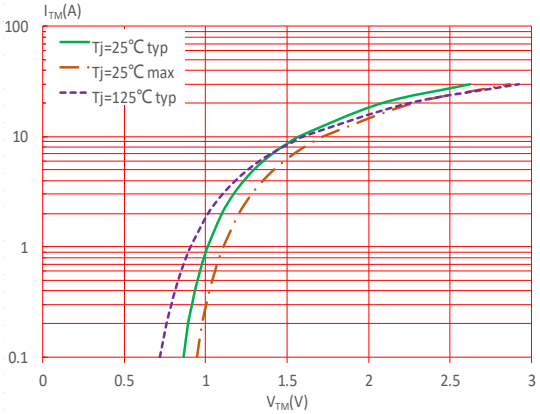


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width t_p<10ms, and corresponding value of I^2t (dI/dt<50A/μs)

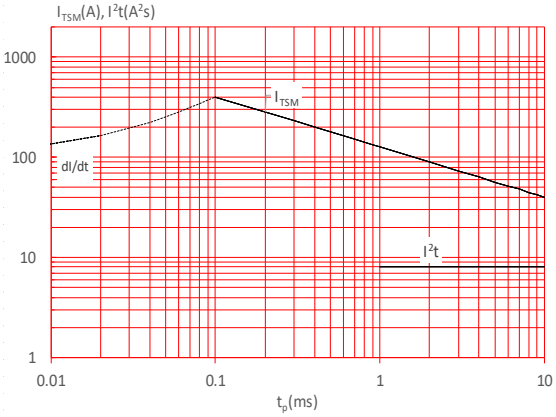
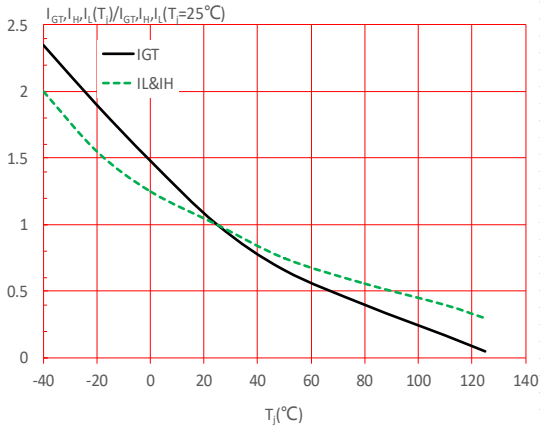


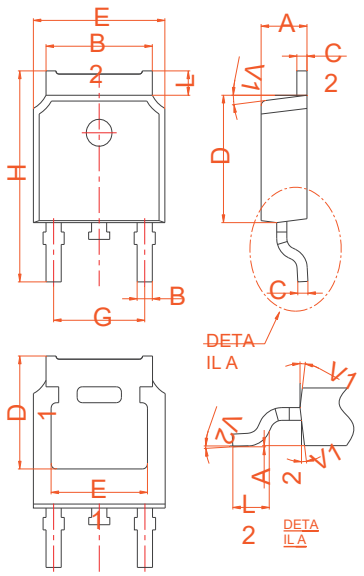
FIG.6: Relative variations of gate triggercurrent, holding current and latching current versus junction temperature



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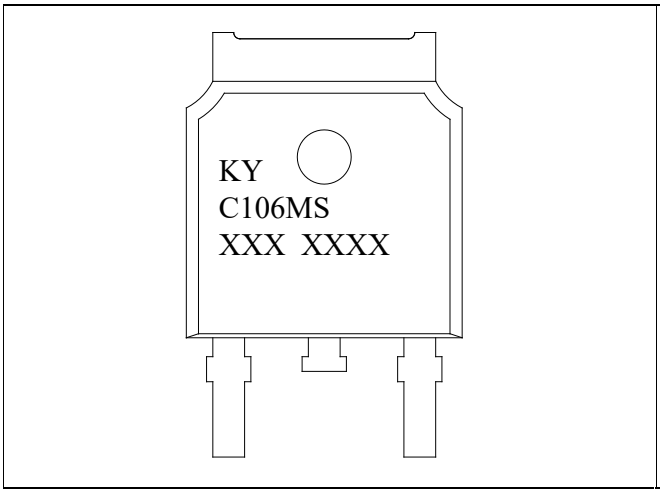
PACKAGE MECHANICAL DATA



TO-252

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.55	0.018		0.022
C2	2.70		2.90	0.106		0.114
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.6	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
L3		0.8			0.031	
L4		0.8			0.031	
V1		4°			4°	
V2	0°		8°	0°		8°

MARKING



XXX XXXX

Product Code

C106MS 4A SCR

PACKAGE	OUTLINE	Base qty (PCS)	INNER BOX (PCS)	CARTON BOX (PCS)
TO-252	TUBE	2,500	5,000	25,000

Document Revision History

Date	Revision	Changes
Jun.22, 2025	A.2.0	Last updated

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