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PRODUCT DISCONTINUANCE (End of Life) NOTICE

(SeCoS Corp. Product Discontinuance ref: P-RD-03-2)

SUBJECT: SGM2310A Product Discontinuance (End of Life) Notice

DISCONTINUANCE PURPOSE:

SeCoS Corp. continually monitors worldwide sales and billings activities on all the products offered to its customers.

The activity for the MOSFET –SGM2310A has declined to a level that warrants its discontinuity, hence End of Life.

Issue Date: 01-Oct-2012

Last Date For Order Acceptance: 01-Apr-2013

Last Date For Shipment: 01-Jun-2013

DISCONTINUED PRODUCT INFORMATION:

Category : MOSFET

Description: MOSFET N-Channel 60V 5A SOT-89 Package

Suggest replacement: SGM2310B (Refer to attachment for specification)

Similar product(s) in the market : NONE

ISSUED BY :

Ms. Alice Lai Department: R&D Dep. <e-mail: Alice@secosgmbh.com>

PLEASE NOTE:

SeCoS Semiconductor Corp. may implement minimum order quantities or dollar amounts based on inventories available. Also, Discontinued Product becomes NCNR (Non-Cancelable, Non-Returnable).

For questions or concerns regarding this notification, please contact your local sales office or customer service representative.



Peter Yang, Assistant Manager

RoHS Compliant Product
 A suffix of "-C" specifies halogen and lead-free

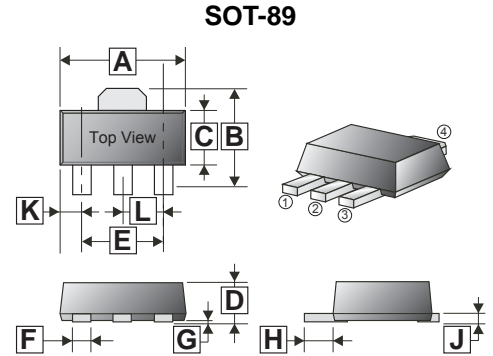
DESCRIPTION

The SGM2310B utilized advanced processing techniques to achieve the lowest possible on-resistance, extremely efficient and cost-effectiveness device. The SGM2310B is universally used for all commercial-industrial applications.

FEATURES

- Simple Drive Requirement
- Small Package Outline

MARKING

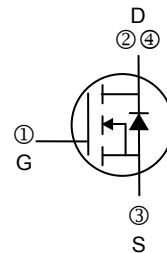


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.60	G	-	-
B	4.05	4.25	H	0.89	1.20
C	2.40	2.60	J	0.35	0.41
D	1.40	1.60	K	0.70	0.80
E	3.00 REF.		L	1.50 REF.	
F	0.40	0.52			

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-89	3K	7 inch

TOP VIEW



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹ , $V_{GS}@10V$	I_D	$T_A=25^\circ\text{C}$	2.7
		$T_A=70^\circ\text{C}$	2.2
Pulsed Drain Current ²	I_{DM}	10	A
Power Dissipation ³	P_D	1.25	W
Linear Derating Factor		0.01	$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Range	T_j, T_{stg}	-55~150	$^\circ\text{C}$
Thermal Resistance Rating			
Maximum Junction to Ambient ¹	$R_{\theta JA}$	100	$^\circ\text{C} / \text{W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Static							
Drain-Source Breakdown Voltage	BV_{DSS}	60	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$	
Gate-Threshold Voltage	$V_{GS(th)}$	1	-	2.5	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	
Forward Transconductance	g_{fs}	-	13	-	S	$V_{DS}=5\text{V}, I_D=2\text{A}$	
Gate-Body Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{GS}=\pm 20\text{V}$	
Drain-Source Leakage Current	I_{DSS}	$T_J=25^\circ\text{C}$	-	-	1	μA	$V_{DS}=48\text{V}, V_{GS}=0$
		$T_J=55^\circ\text{C}$	-	-	5		$V_{DS}=48\text{V}, V_{GS}=0$
Drain-Source On-Resistance ²	$R_{DS(ON)}$	-	-	100	m Ω	$V_{GS}=10\text{V}, I_D=2.5\text{A}$	
		-	-	110		$V_{GS}=4.5\text{V}, I_D=1.5\text{A}$	
Total Gate Charge	Q_g	-	5	-	nC	$V_{DS}=48\text{V},$ $V_{GS}=4.5\text{V},$ $I_D=2\text{A}$	
Gate-Source Charge	Q_{gs}	-	1.68	-			
Gate-Drain ("Miller") Charge	Q_{gd}	-	1.9	-			
Turn-on Delay Time ²	$T_{d(on)}$	-	1.6	-	nS	$V_{DD}=30\text{V},$ $V_{GS}=10\text{V},$ $R_G=3.3\Omega,$ $I_D=2\text{A}$	
Rise Time	T_r	-	7.2	-			
Turn-off Delay Time	$T_{d(off)}$	-	25	-			
Fall Time	T_f	-	14.4	-			
Input Capacitance	C_{iss}	-	511	-	pF	$V_{GS}=0,$ $V_{DS}=15\text{V},$ $f=1.0\text{MHz}$	
Output Capacitance	C_{oss}	-	38	-			
Reverse Transfer Capacitance	C_{rss}	-	25	-			
Source-Drain Diode							
Diode Forward Voltage ²	V_{SD}	-	-	1.2	V	$I_S=1\text{A}, V_{GS}=0$	
Continuous Source Current ^{1,4}	I_S	-	-	2.7	A	$V_G=V_D=0, \text{Force Current}$	
Pulsed Source Current ^{2,4}	I_{SM}	-	-	10			
Reverse Recovery Time	T_{RR}	-	9.7	-	nS	$I_S=2\text{A}, di/dt=100\text{A}/\mu\text{s}$	
Reverse Recovery Charge	Q_{RR}	-	5.8	-	nC	$V_{GS}=0$	

Notes:

- Surface mounted on FR4 board , $t \leq 10\text{sec}$.
- The data tested by pulsed , pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$
- The power dissipation is limited by 150°C junction temperature
- The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation

CHARACTERISTIC CURVES

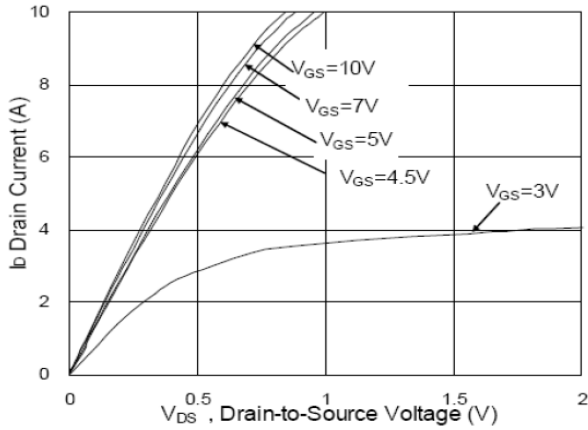


Fig.1 Typical Output Characteristics

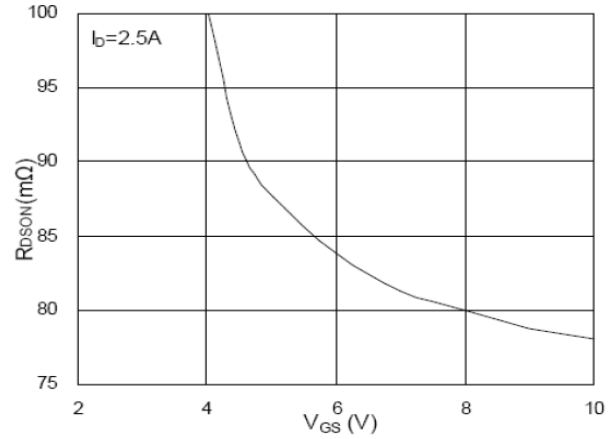


Fig.2 On-Resistance v.s Gate-Source

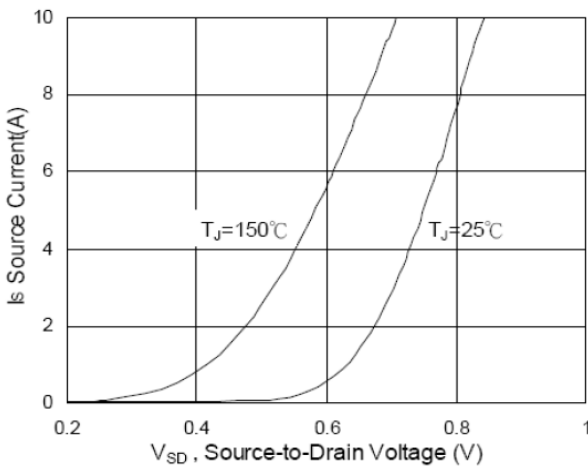


Fig.3 Forward Characteristics of Reverse

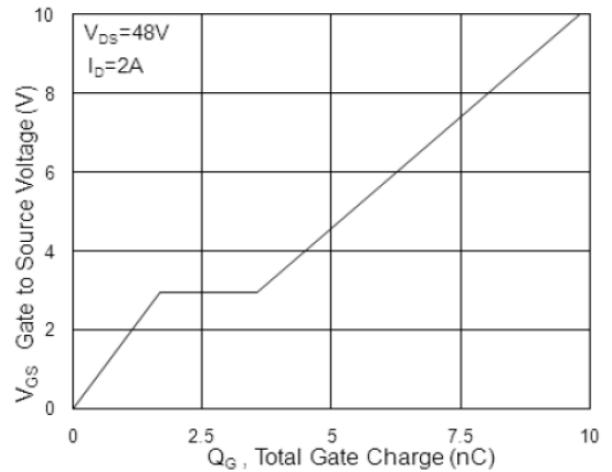


Fig.4 Gate-Charge Characteristics

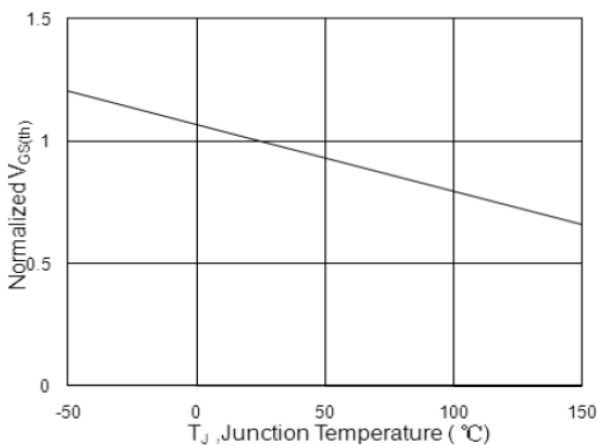


Fig.5 Normalized $V_{GS(th)}$ v.s T_J

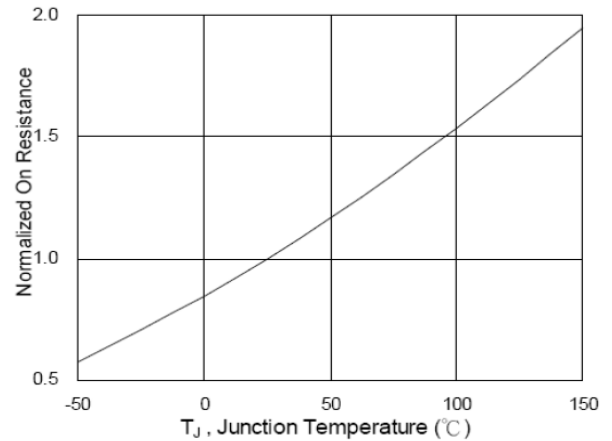


Fig.6 Normalized $R_{DS(ON)}$ v.s T_J

CHARACTERISTIC CURVES

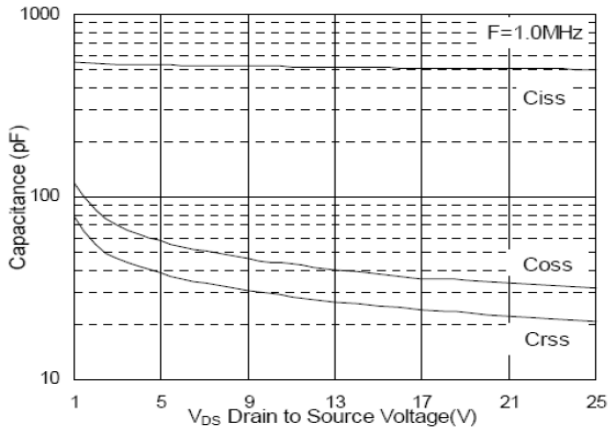


Fig.7 Capacitance

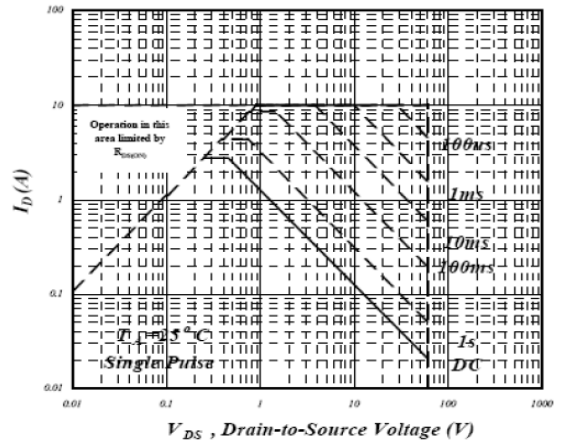


Fig.8 Safe Operating Area

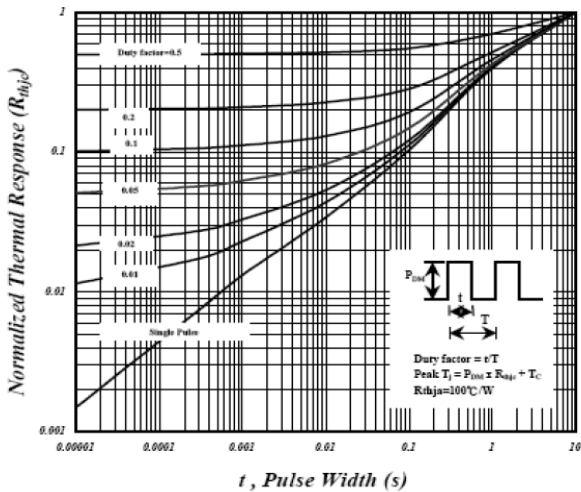


Fig.9 Normalized Maximum Transient Thermal Impedance

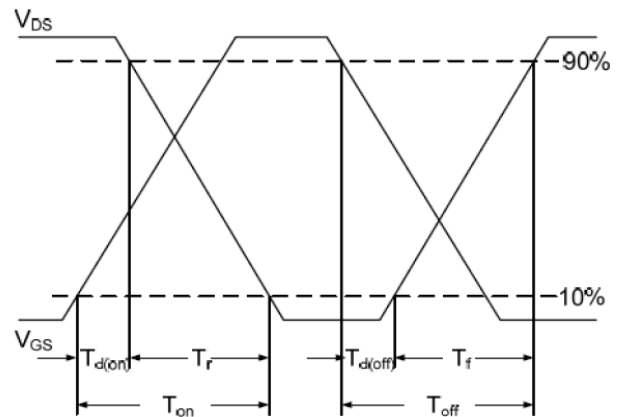


Fig.10 Switching Time Waveform

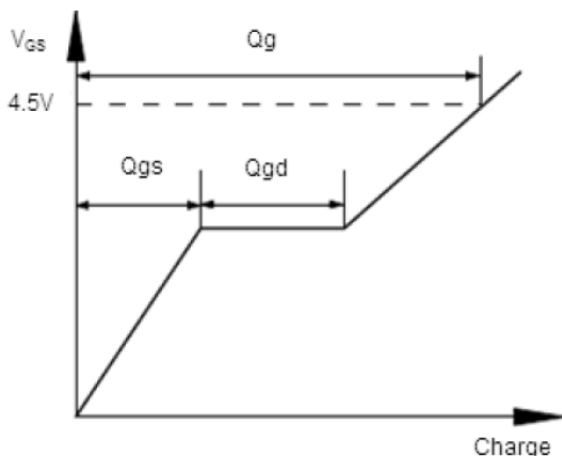


Fig.11 Gate Charge Waveform