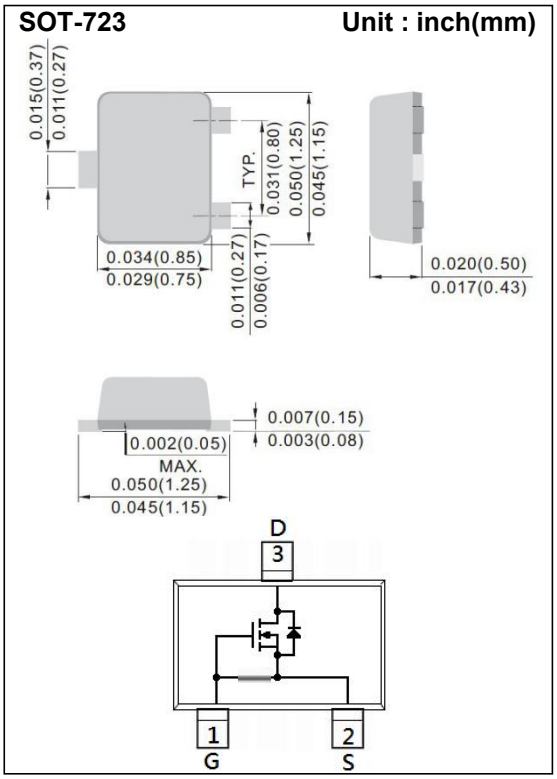
CAN CIRCLE SEMI

CSM212N2S723

20V N-Channel MOSFET

Voltage	20 V	Current	2 A



Features

- Switching with Low $R_{DS(ON)}$
- Lead free in compliance directive
- Green molding compound a

Mechanical Data

- Case: SOT-723 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00005 ounce, 0.0013 gram

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current		I_D	2	A
Pulsed Drain Current		I_{DM}	4	A
Power Dissipation	T_a=25°C	P_D	150	mW
	Derate above 25°C		1.2	mW/ °C
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Typical Thermal resistance - Junction to Ambient (Note 1)		$R_{\theta JA}$	833	°C/W

CAN CIRCLE SEMI

CSM212N2S723

Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static (Note 2)						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250uA	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	0.35	0.72	1.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D= 0.65A	-	0.15	0.28	Ω
		V_{GS}=2.5V, I_D= 0.55A	-	0.21	0.35	
		V_{GS}=1.8V, I_D= 0.45A	-	0.31	0.60	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V	-	0.01	1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V	-	±4	±50	uA
Forward Transconductance	g_{FS}	VDS =10V, ID =0.65A	-	1.9	-	S
Diode Forward Voltage	V_{SD}	I_S=0.15A, V_{GS}=0V	-	0.63	1.2	V
Dynamic (Note 3)						
Input Capacitance	Ciss	V_{DS}=16V, V_{GS}=0V, f=1.0MHZ	-	62	-	pF
Output Capacitance	Coss		-	24	-	
Reverse Transfer Capacitance	Crss		-	12	-	
Turn-On Delay Time	$td_{(on)}$	V_{DD}=10V, I_D=500mA, V_{GS}=4.5V, R_G=10Ω (Note 1,2)	-	3	-	ns
Turn-On Rise Time	tr		-	23	-	
Turn-Off Delay Time	$td_{(off)}$		-	12	-	
Turn-Off Fall Time	tf		-	19	-	

NOTES :

1. $R_{\Theta JA}$ is surface mounted on a 1 inch FR-4 with 2oz. square pad of copper
2. Pulse width≤300us, Duty cycle≤2%
3. Guaranteed by design, not subject to production testing.

CSM212N2S723

TYPICAL CHARACTERISTIC CURVES

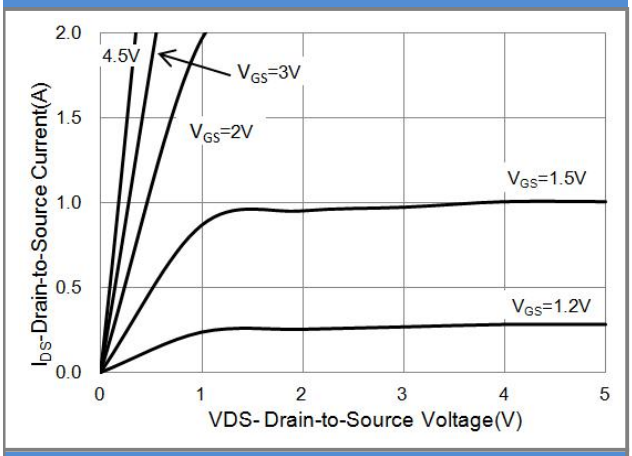


Fig.1 Output Characteristics

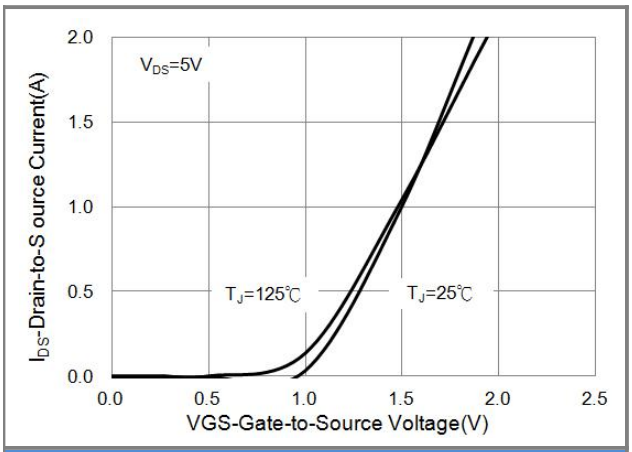


Fig.2 Transfer Characteristics

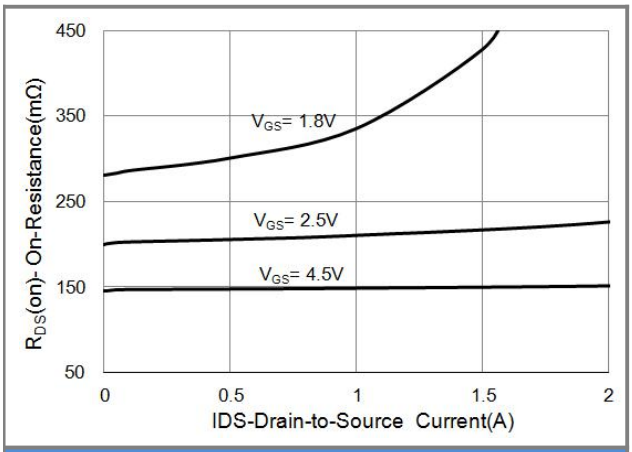


Fig.3 On-Resistance vs. Drain Current

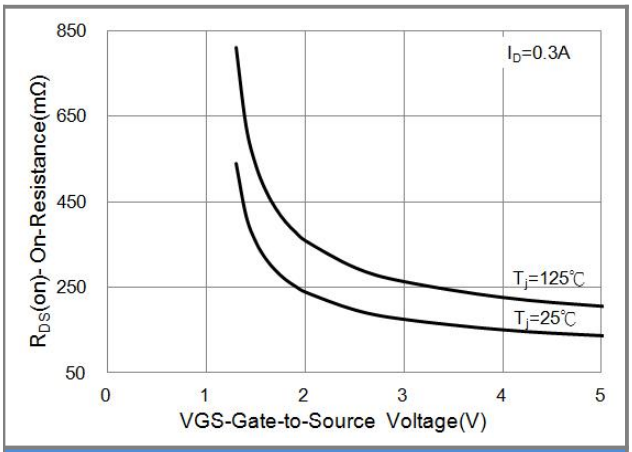


Fig.4 On-Resistance Variation with VGS.

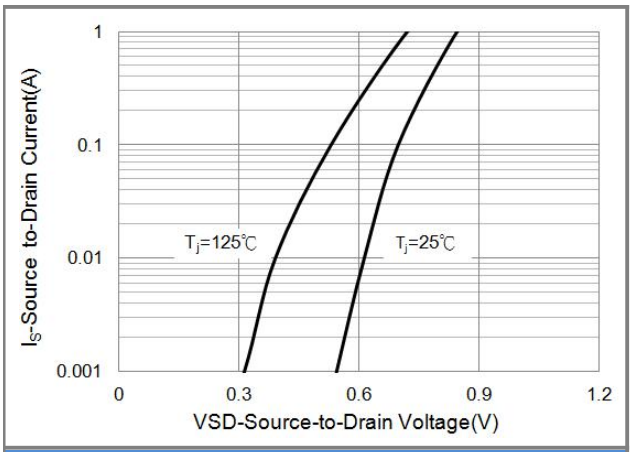


Fig.5 Body Diode Characteristics

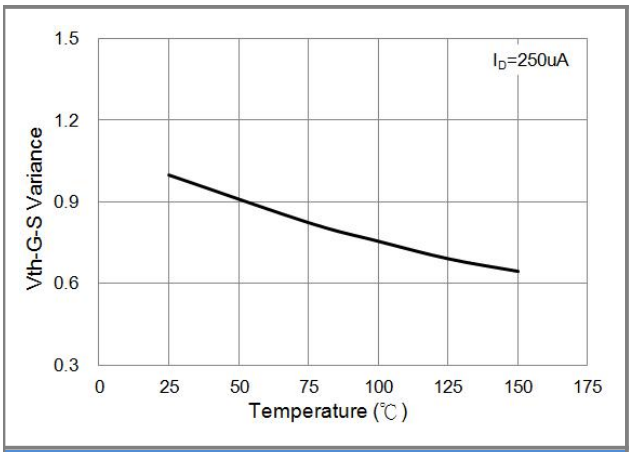


Fig.6 Threshold Voltage

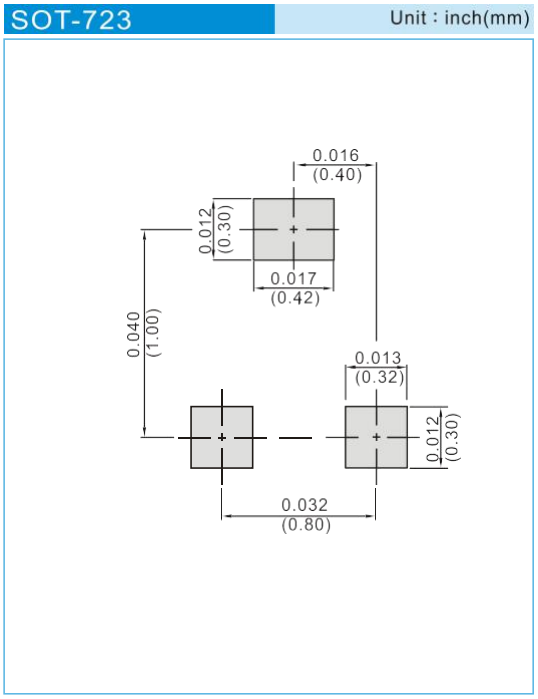
CAN CIRCLE SEMI

CSM212N2S723

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type
CSM212N2S723	SOT-723	8K pcs / 7” reel

MOUNTING PAD LAYOUT



Notice

Specifications of the products displayed herein are subject to change without notice. CCS or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in CCS terms and conditions of sale for such products, CCS assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of CCS products including liability or warranties relating to fitness for a particular purpose, merchant ability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications.

Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CCS for any damages resulting from such improper use or sale.