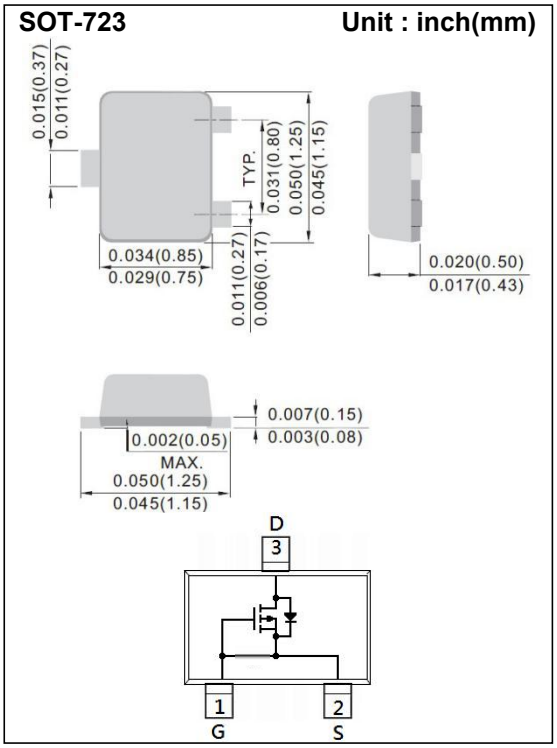
CAN CIRCLE SEMI

CSM212P1S723

20V P-Channel MOSFET

Voltage	-20 V	Current	-1 A



Features

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

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	-1	A
Pulsed Drain Current		I_{DM}	-2	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

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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	-0.77	-1.1	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=-4.5V, I_D= -0.45A	-	0.40	0.5	Ω
		V_{GS}=-2.5V, I_D= -0.35A	-	0.55	0.70	
		V_{GS}=-1.8V, I_D= -0.25A	-	0.80	0.95	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V, V_{GS}=0V	-	-	-1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V	-	-	±20	uA
Forward Transconductance	g_{FS}	VDS =-10V, ID =-0.45A	-	1.2	-	S
Diode Forward Voltage	V_{SD}	I_S=-0.45A, V_{GS}=0V	-	-0.85	-1.2	V
Dynamic(Note 3)						
Input Capacitance	Ciss	V_{DS}=-16V, V_{GS}=0V, f=1.0MHZ	-	115	-	pF
Output Capacitance	Coss		-	15	-	
Reverse Transfer Capacitance	Crss		-	9	-	
Turn-On Delay Time	$td_{(on)}$	V_{DD}=-10V, I_D=-200mA, V_{GS}=-4.5V, R_G=10Ω	-	9.2	-	ns
Turn-On Rise Time	tr		-	6	-	
Turn-Off Delay Time	$td_{(off)}$		-	33	-	
Turn-Off Fall Time	tf		-	21	-	

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.

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TYPICAL CHARACTERISTIC CURVES

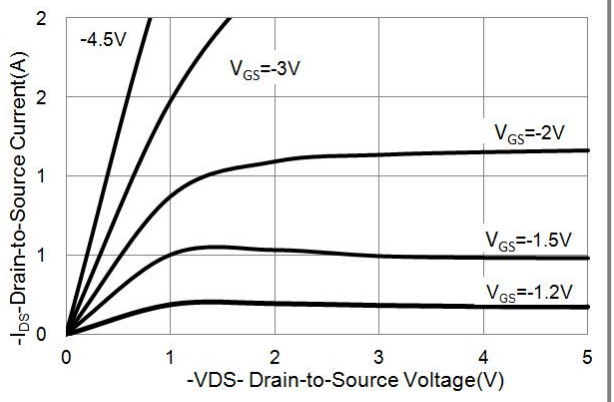

Fig.1 Output Characteristics

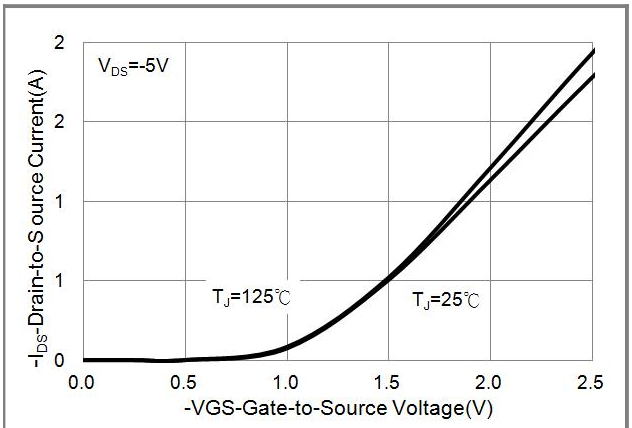

Fig.2 Transfer Characteristics

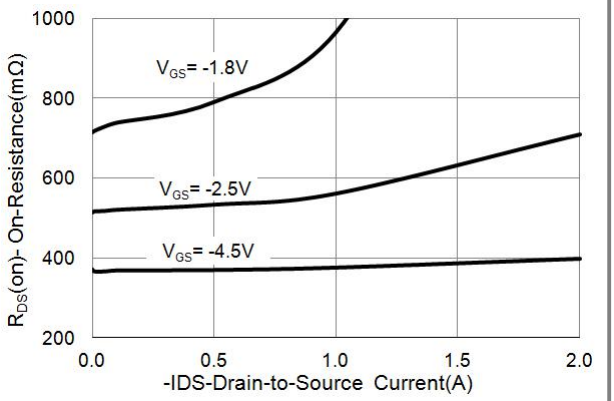

Fig.3 On-Resistance vs. Drain Current

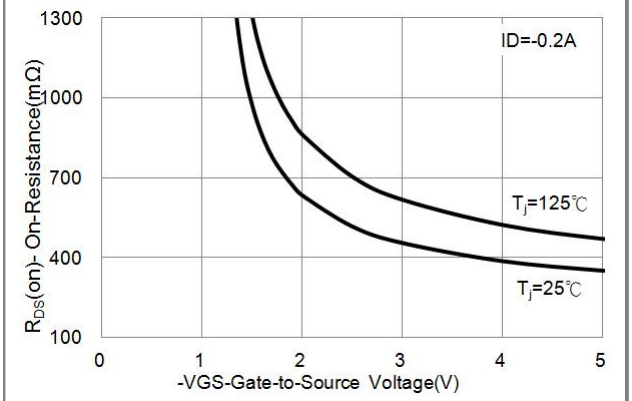

Fig.4 On-Resistance Variation with VGS.

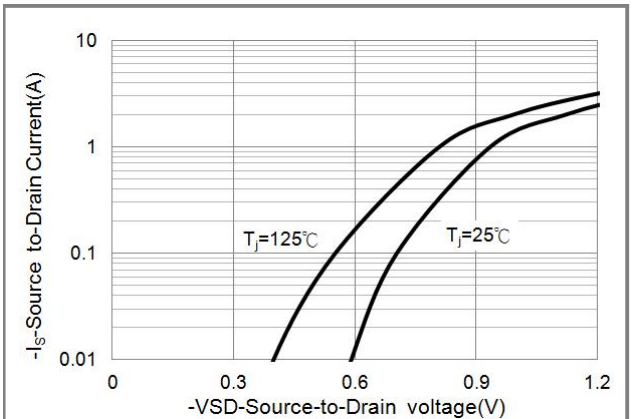

Fig.5 Body Diode Characteristics

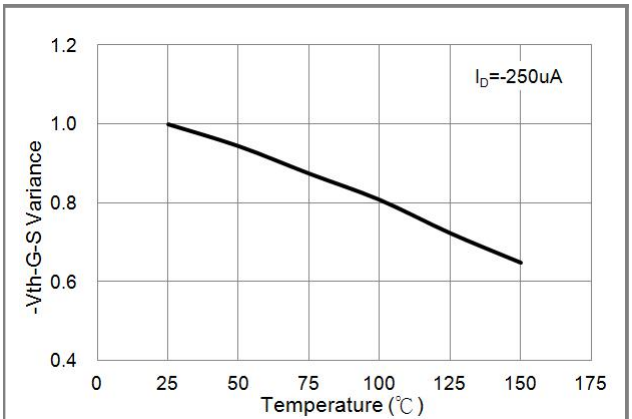

Fig.6 Threshold Voltage

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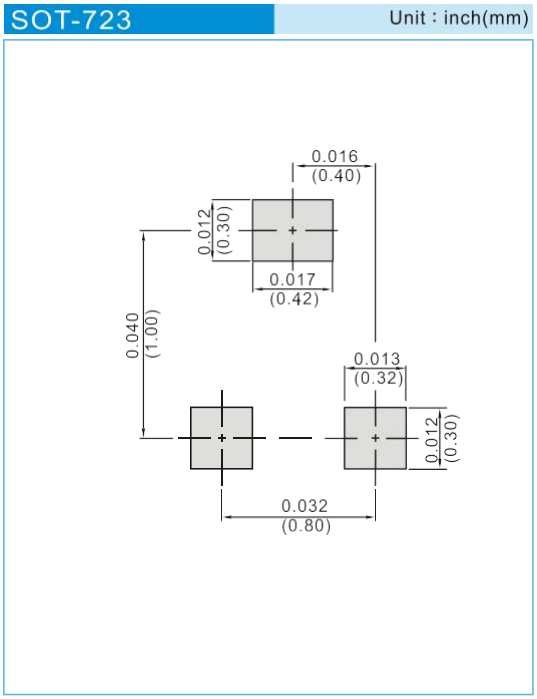
PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type
CSM212P1S723	SOT-723	8K pcs / 7” reel

MOUNTING PAD LAYOUT



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