

CSM212P1S523

20V P-Channel Enhancement Mode MOSFET

Voltage

-20 V

Current

-1A

Features

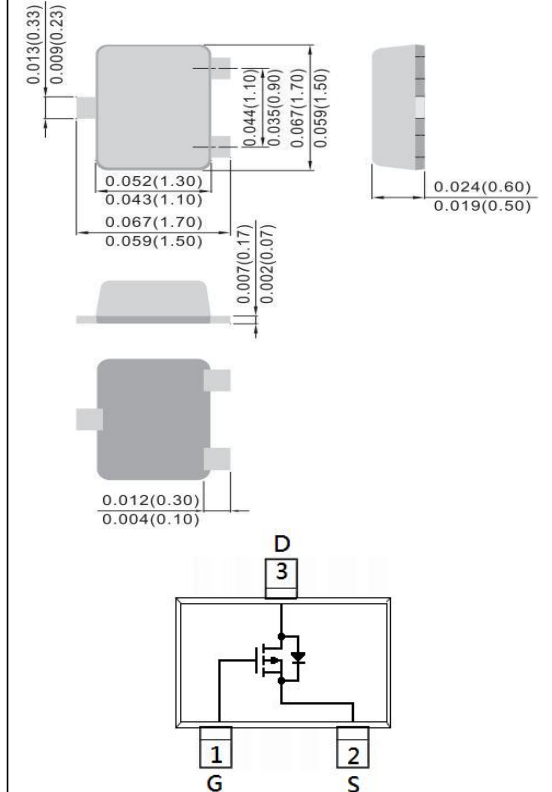
- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-0.9A < 500m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-2.5V$, $I_D@-0.6A < 700m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-1.8V$, $I_D@-0.4A < 950m\Omega$
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc.

Mechanical Data

- Case: SOT-523 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00007 ounces, 0.002 grams

SOT-523

Unit : inch(mm)



Maximum Ratings and Thermal Characteristics ($T_A=25^\circ C$ 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}	-4	A
Power Dissipation	T _a =25°C	P _D	300	mW
	Derate above 25°C		2.4	mW/ °C
Operating Junction and Storage Temperature Range		T _J ,T _{STG}	-55~150	°C
Typical Thermal resistance		R _{θJA}	417	°C/W
- Junction to Ambient ^(Note 3)				

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PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static (Note 2)						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-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	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 20	μA
Forward Transconductance	g_{FS}	$V_{DS}=-10V, I_D=-0.45A$	-	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	C_{iss}	$V_{DS}=-16V, V_{GS}=0V,$ $f=1.0MHz$	-	115	-	pF
Output Capacitance	C_{oss}		-	15	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-10V, I_D=-200mA,$ $V_{GS}=-4.5V,$ $R_G=10\Omega$	-	9.2	-	ns
Turn-On Rise Time	t_r		-	6	-	
Turn-Off Delay Time	$t_{d(off)}$		-	33	-	
Turn-Off Fall Time	t_f		-	21	-	

NOTES :

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

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TYPICAL CHARACTERISTIC CURVES

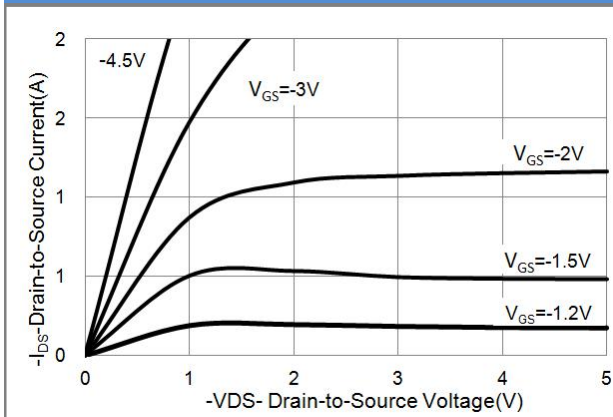


Fig.1 Output Characteristics

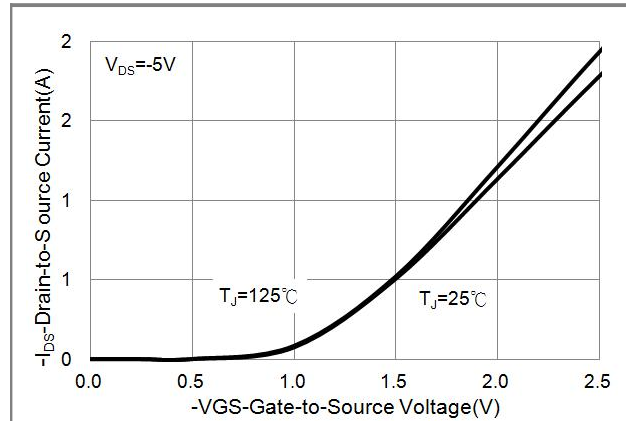


Fig.2 Transfer Characteristics

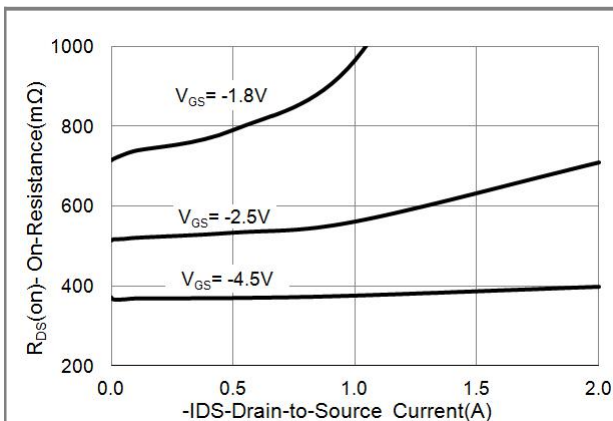


Fig.3 On-Resistance vs. Drain Current

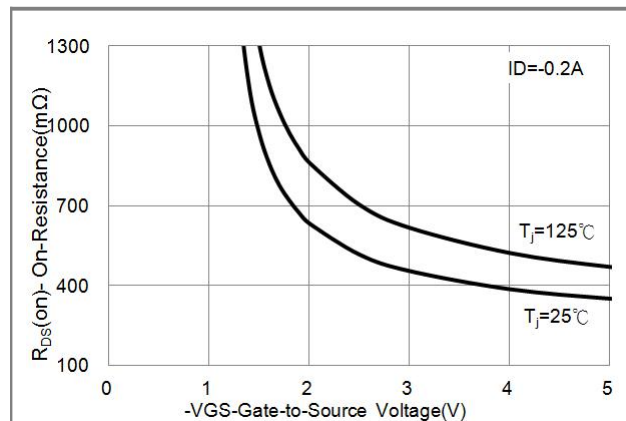


Fig.4 On-Resistance Variation with V_GS.

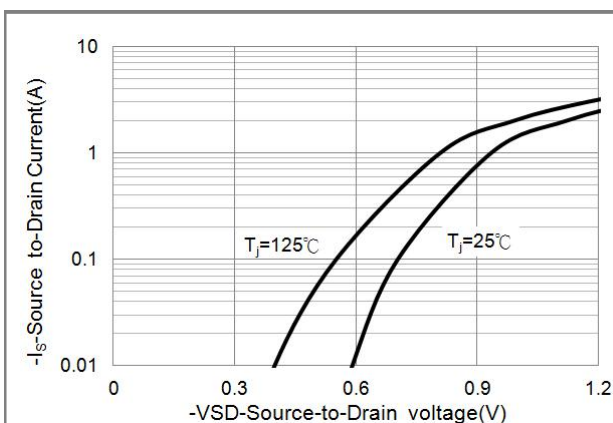


Fig.5 Body Diode Characteristics

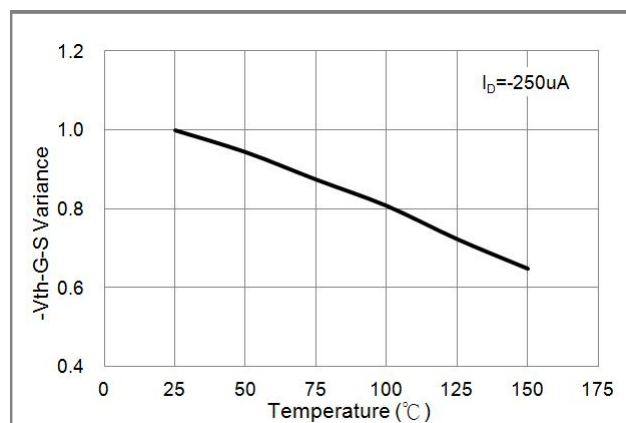


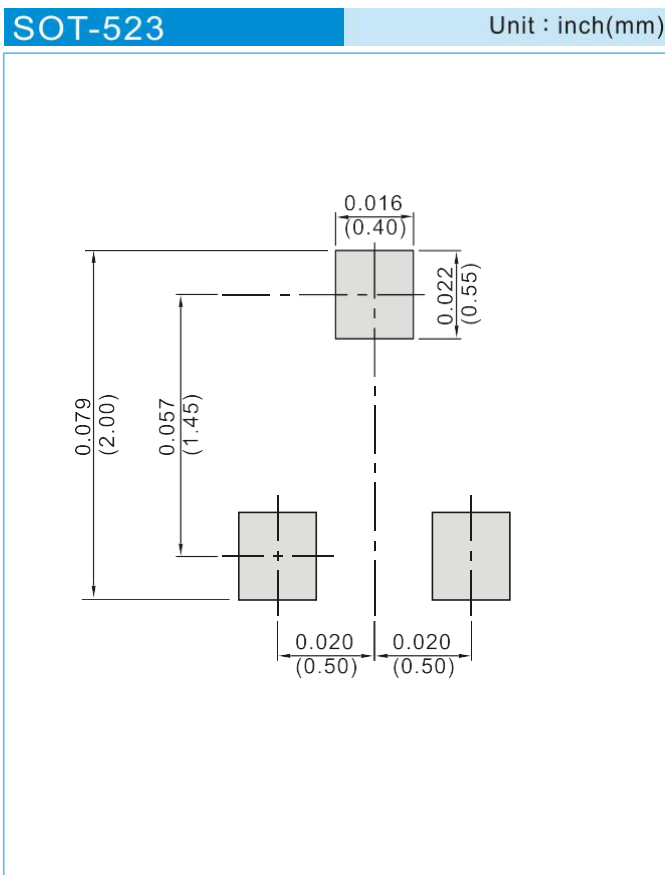
Fig.6 Threshold Voltage

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PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing Type
CSM212P1S523	SOT-523	4K pcs / 7" reel

MOUNTING PAD LAYOUT



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