

CSM620P03DF1006-3

60V P-Channel Enhancement Mode MOSFET

Voltage -60 V **Current** -200mA

FEATURES

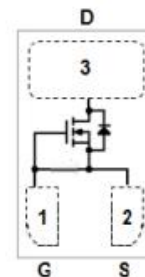
- $R_{DS(ON)}$, $V_{GS}@10V, I_{DS}@500mA=2.5$
- $R_{DS(ON)}$, $V_{GS}@4.5V, I_{DS}@200mA=3$
- Advanced Trench Process Technology
- High Density Cell Design For Ultra Low On-Resistance
- Very Low Leakage Current In Off Condition
- Specially Designed for Battery Operated Systems, Solid-State Relays Drivers : Relays, Displays, Lamps, Solenoids, Memories, etc.

MECHANICAL DATA

- Case: SOT 723 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00007 ounces, 0.002 grams

DFN1006-3L

Unit: inch(mm)



Maximum RATINGS and Thermal Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V _{DS}	-60	V
Gate-Source Voltage		V _{GS}	±20	
Continuous Drain Current		I _D	-300	mA
Pulsed Drain Current (Note 1)		I _{DM}	-600	
Power Dissipation	T _a =25°C	P _D	500	mW
	Derate above 25°C		4	mW/ °C
Operating Junction and Storage Temperature Range		T _J ,T _{STG}	-55~150	°C
Typical Thermal Resistance		R _{θJA}	250	°C/W
- Junction to Ambient (Note 2)				

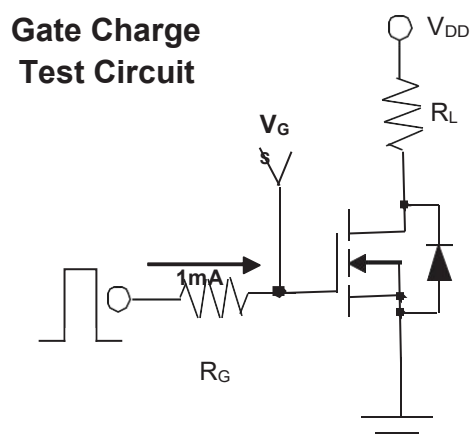
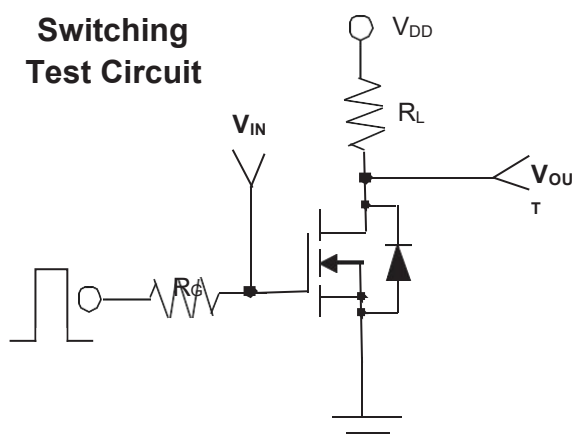
Note:1.Maximum DC current limited by the package

2.Surface mounted on FR4 board, $t \leq 10$ sec

CSM620P03DF1006-3

ELECTRICAL CHARACTERISTICS

Para meter	S ymb o l	Te st C o nd i ti o n	Min.	Typ .	Max.	Uni ts
Sta t i c						
Drain- Source Breakdown Voltage	$BV_{DS S}$	$V_{GS}=0 V, I_D=10 \mu A$	60	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250 \mu A$	1	-	2.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=200mA$	-	-	3	^
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=500mA$	-	-	2.5	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$	-	-	1	μA
Gate Body Leakage	I_{GSS}	$V_{GS}=\pm 20 V, V_{DS}=0 V$	-	-	± 10	μA
Forward Transconductance	g_{fs}	$V_{DS}=15 V, I_D=250 mA$	100	-	-	m S
Dynamic						
To ta l Gate Charge	Q_g	$V_{DS}=15 V, I_D=200 mA$ $V_{GS}=4.5V$	-	-	0.8	nC
Turn- On D e la y Ti me	$td_{(on)}$	$V_{DD}=30V, R_L=150\wedge$ $I_D=200mA, V_{GEN}=10V$ $R_G=10\wedge$	-	-	20	ns
Turn-Off D e lay Ti me	$td_{(off)}$		-	-	125	
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0 V$ $f=1.0MHz_z$	-	-	35	pF
Output Capacitance	C_{oss}		-	-	10	
Revers e Transfer Capacitance	C_{rss}		-	-	5	
Source - Drain Diode						
Diode Forward Voltage	V_{SD}	$I_s=200mA, V_{GS}=0 V$	-	0.82	1.3	V
Continuo us D i ode Forward Current	I_s	-	-	-	115	mA
Pulsed D i ode Forward Current	I_{sM}	-	-	-	800	mA



CSM620P03DF1006-3

Typical Characteristics Curves ($T_A=25^\circ\text{C}$, unless otherwise noted)

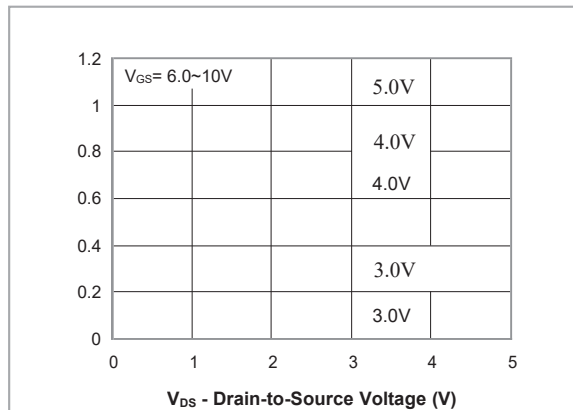


FIG.1- Output Characteristic

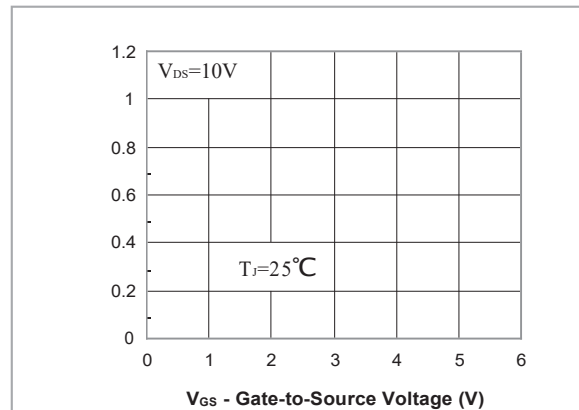


FIG.2- Transfer Characteristic

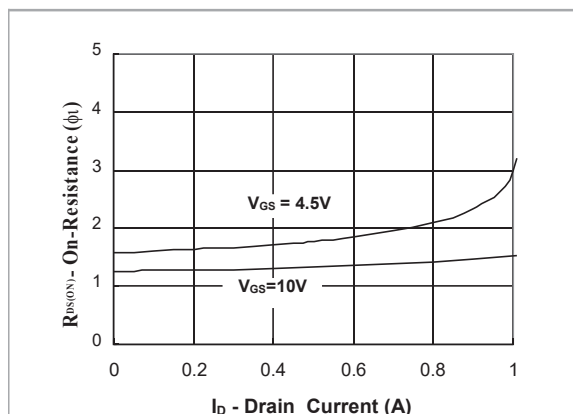


FIG.3- On Resistance vs Drain Current

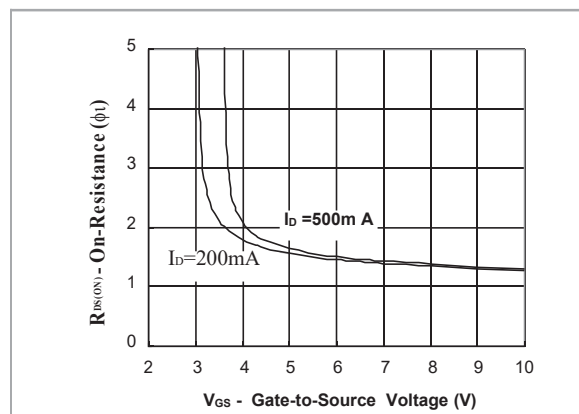


FIG.4- OnResistance vs Gate to Source Voltage

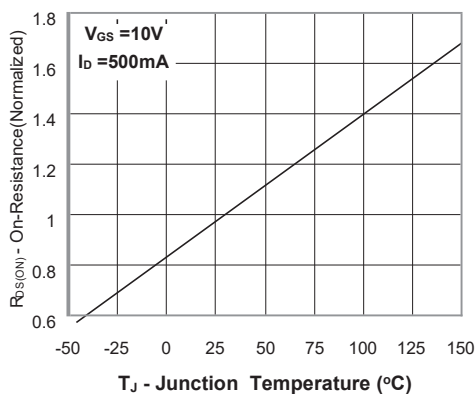


FIG.5- On Resistance vs Junction Temperature

CSM620P03DF1006-3

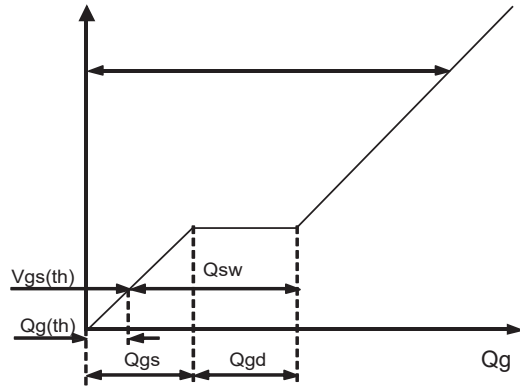


Fig.6 - Gate Charge Waveform

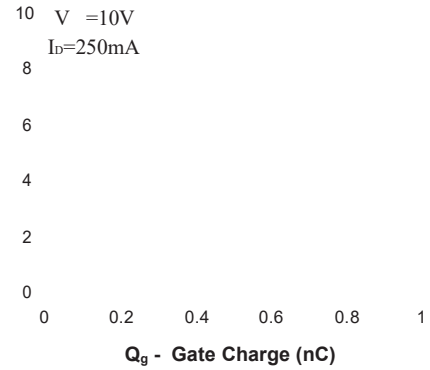


Fig.7 - Gate Charge

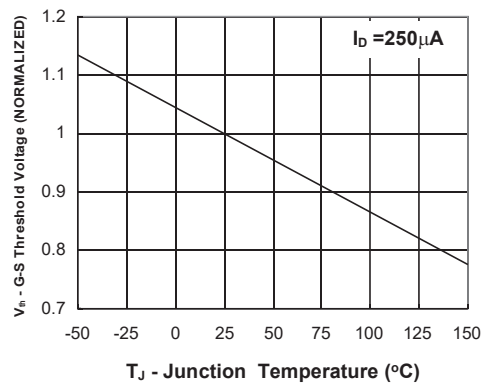


Fig.8 - Threshold Voltage vs Temperature

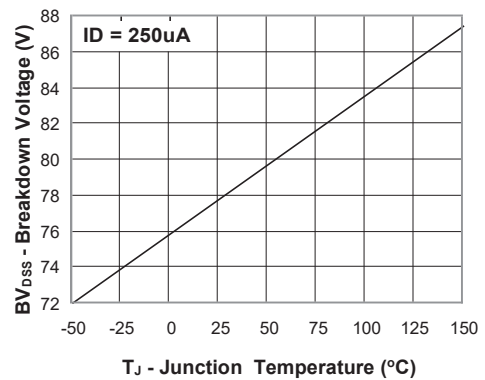


Fig.9 - Breakdown Voltage vs Junction Temperature

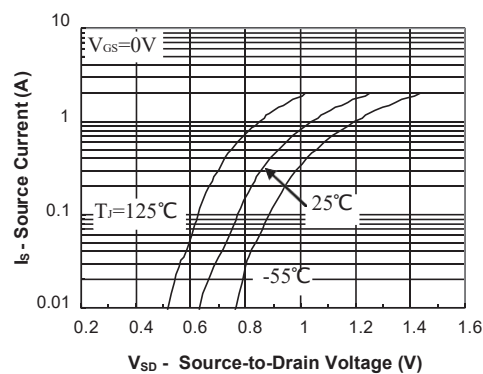


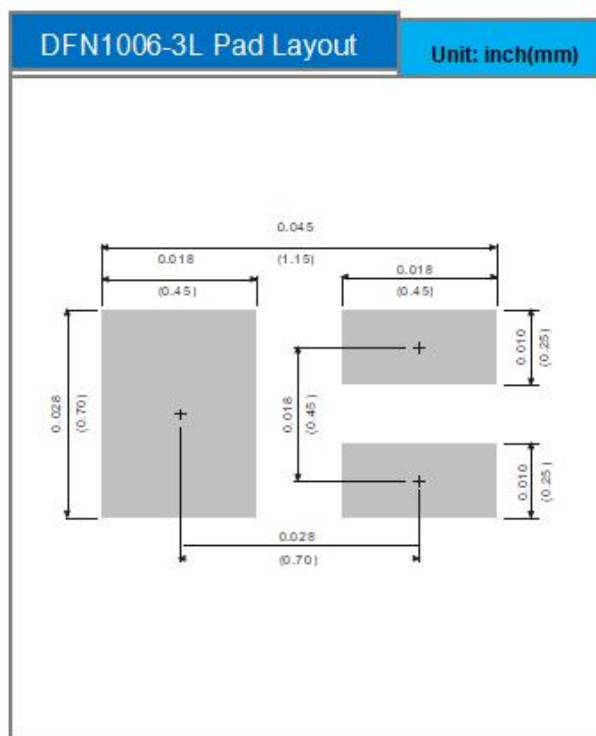
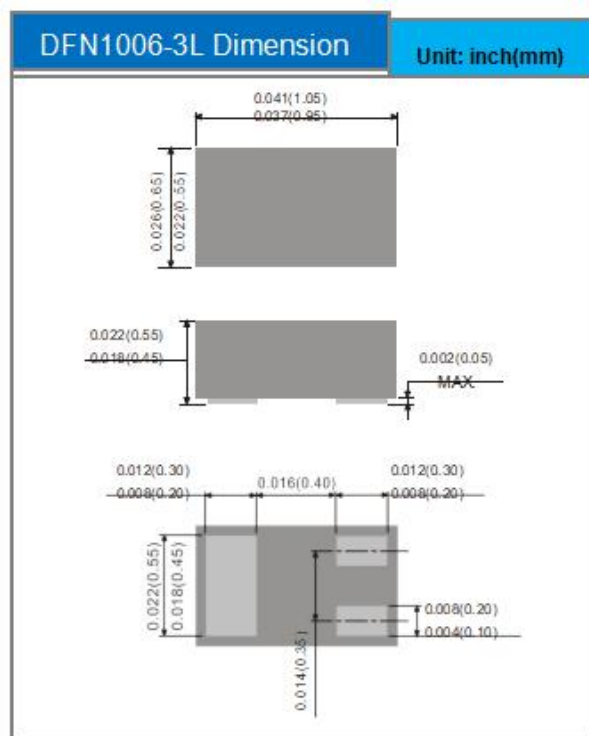
Fig.10 - Source-Drain Diode Forward Voltage

CSM620P03DF1006-3

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing Type
CSM620P03DF1006-3	DFN1006-3L	10K pcs / 7" reel

MOUNTING PAD LAYOUT



CSM620P03DF1006-3

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.