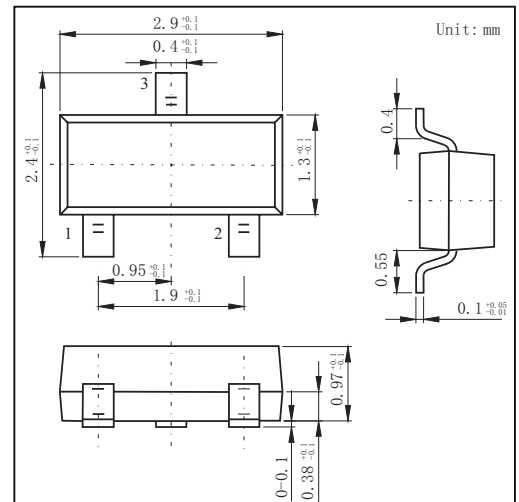


SOT-23 Plastic-Encapsulate MOSFETS
FEATURE

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for portable equipment
- Easily designed drive circuits
- Easy to parallel
- N-channel MOSFET

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any


MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V _{DS}	60	V
Gate-source Voltage	V _{GS}	±20	V
Drain Current	I _D	T _A =25°C	3
		T _A =70°C	2.4
Pulsed Drain Current ^A	I _{DM}	12	A
Total Power Dissipation @ T _C =25°C	P _D	1.2	W
Thermal Resistance Junction-to-Ambient ^B	R _{θJA}	105	°C/W
Junction and Storage Temperature Range	T _J , T _{STG}	-55~+150	°C

SOT-23 Plastic-Encapsulate MOSFETS

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
Gate-Body Leakage Current	I_{GSS1}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
	I_{GSS2}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 50	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0	1.7	2.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=3A$		58	100	m Ω
		$V_{GS}=4.5V, I_D=1.5A$		70	110	
Diode Forward Voltage	V_{SD}	$I_S=3.0A, V_{GS}=0V$		0.8	1.2	V
Maximum Body-Diode Continuous Current	I_S				3.0	A
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V, f=1MHz$		330		pF
Output Capacitance	C_{oss}			90		
Reverse Transfer Capacitance	C_{rss}			17		
Switching Parameters						
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=30V, I_D=3.0A$		5.1		nC
Gate-Source Charge	Q_{gs}			1.3		
Gate-Drain Charge	Q_{gd}			1.7		
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=10V, V_{DD}=30V, I_D=1.5A, R_L=1\Omega, R_{GEN}=3\Omega$		13		ns
Turn-on Rise Time	t_r			51		
Turn-off Delay Time	$t_{D(off)}$			19		
Turn-off fall Time	t_f			12		

A. Pulse Test: Pulse Width $\leq 300\mu s$, Duty cycle $\leq 2\%$

B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch

RATINGS AND CHARACTERISTIC CURVES

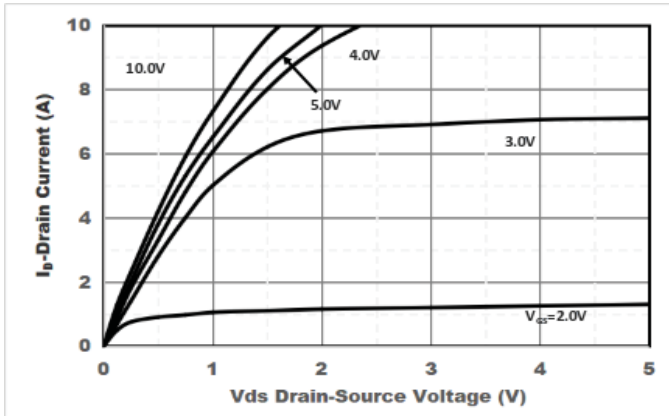


Figure1. Output Characteristics

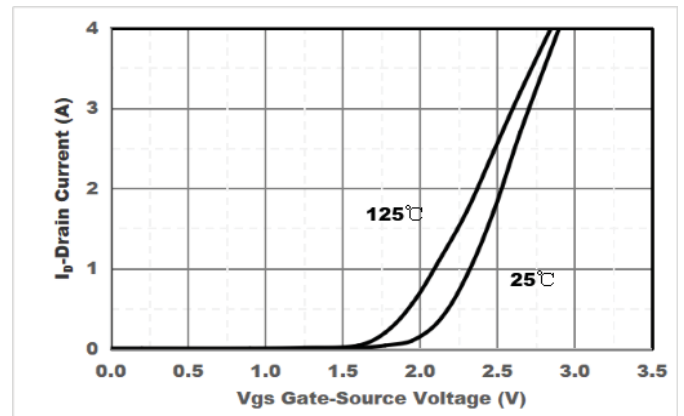


Figure2. Transfer Characteristics

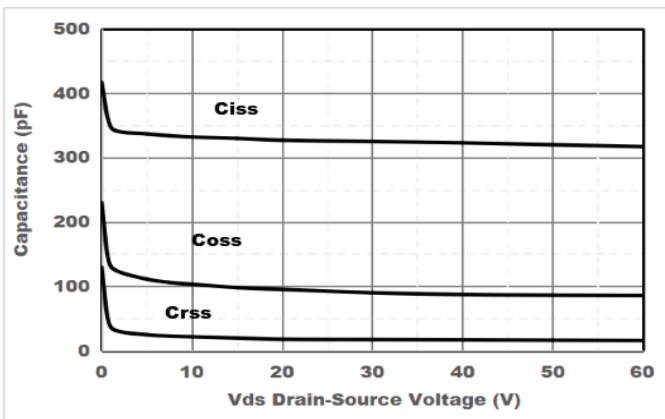


Figure3. Capacitance Characteristics

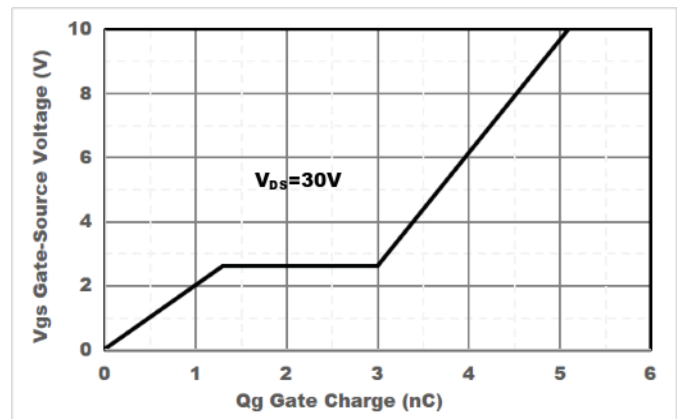


Figure4. Gate Charge

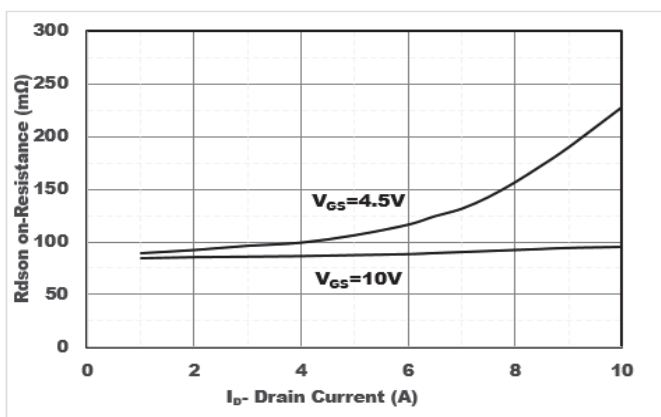


Figure5. Drain-Source on Resistance

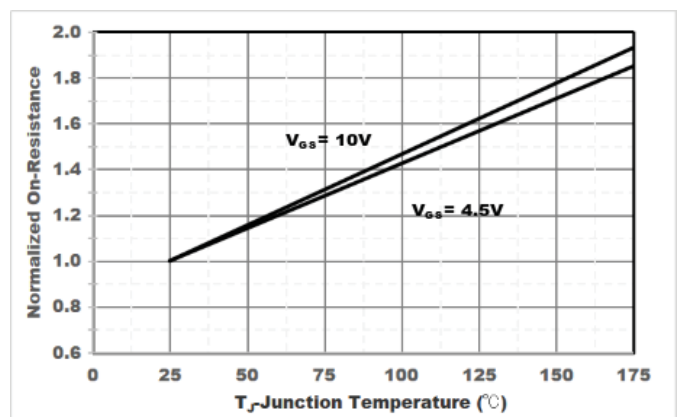


Figure6. Drain-Source on Resistance

RATINGS AND CHARACTERISTIC CURVES

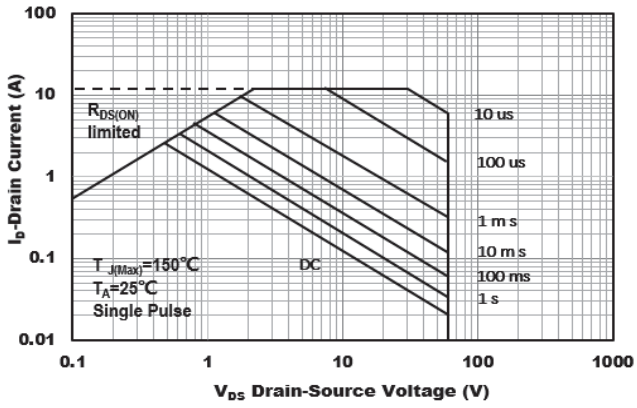


Figure7. Safe Operation Area

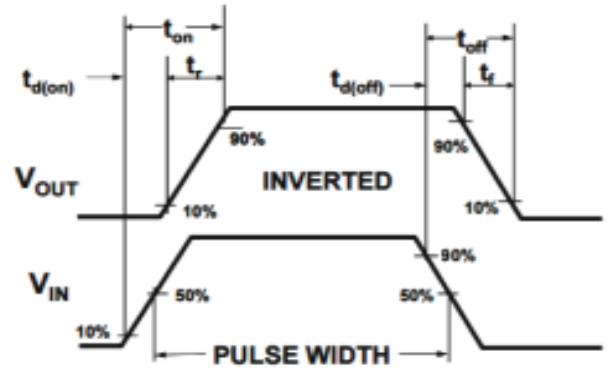


Figure8. Switching wave