

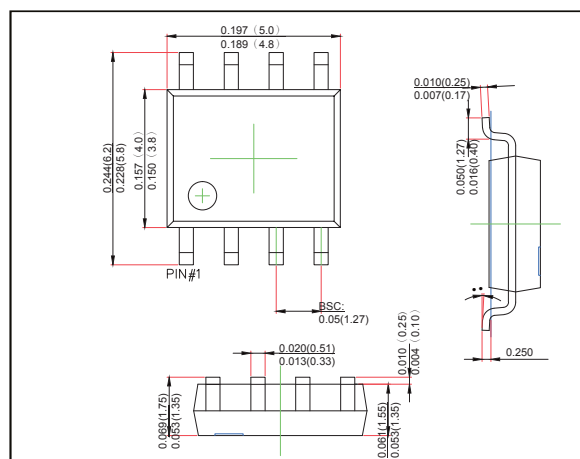
SOP-8 Plastic-Encapsulate MOSFETS

Features

- V_{DS} (V) = 30V
- I_D = 7 A (V_{GS} = 10V)
- $R_{DS(ON)} < 30m\Omega$ (V_{GS} = 10V)
- $R_{DS(ON)} < 40m\Omega$ (V_{GS} = 5V)
- $R_{DS(ON)} < 50m\Omega$ (V_{GS} = 4.5V)
- N-Channel MOSFET

MECHANICAL DATA

- Case style: SOP8 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current (Note.1)	I_D	7	A
		5.8	
Pulsed Drain Current	I_{DM}	30	
Power Dissipation (Note.1)	P_D	2.5	W
		1.6	
Thermal Resistance Junction- to-Ambient	R_{thJA}	50	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Surface Mounted on FR4 Board, $t \leq 10$ sec.

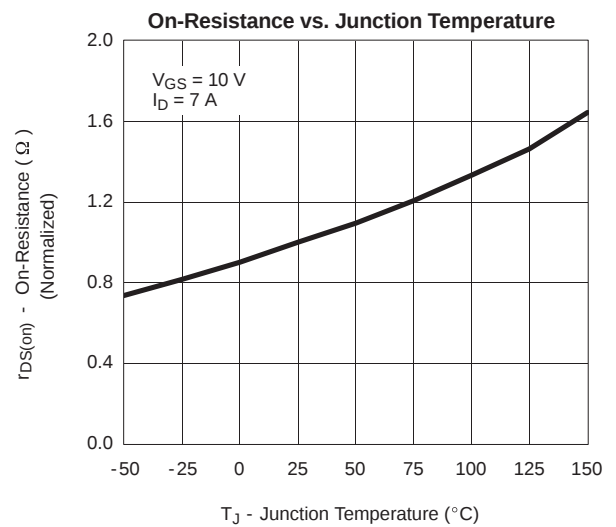
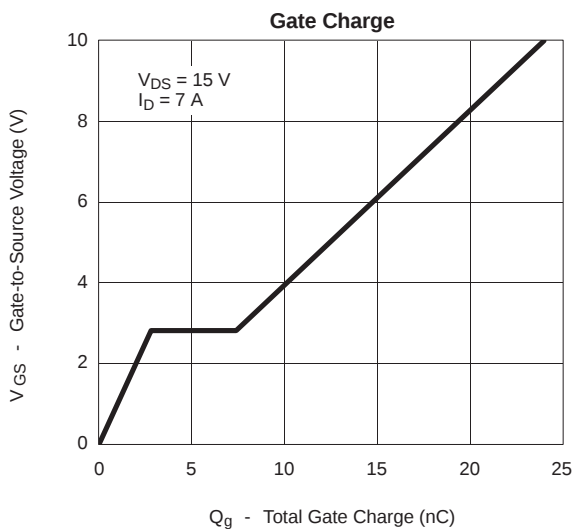
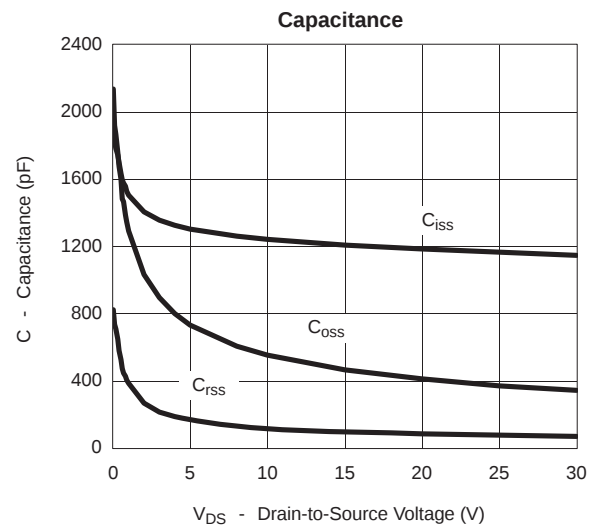
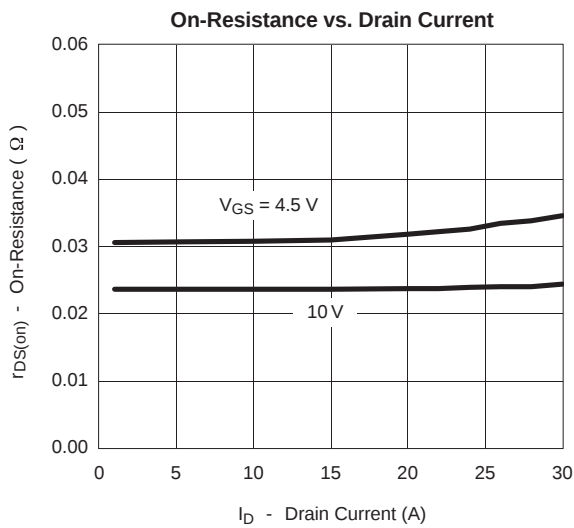
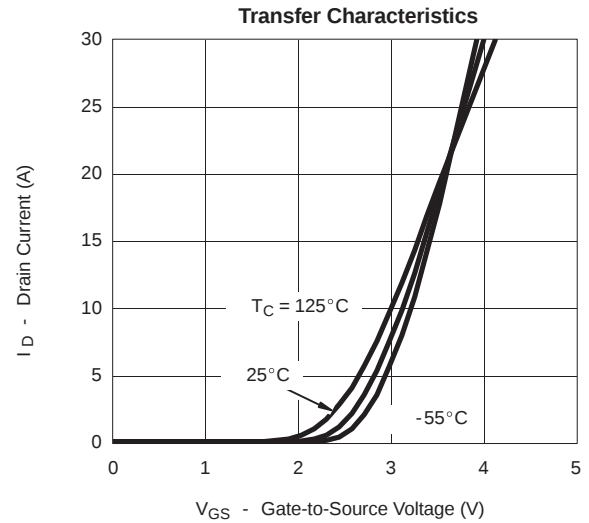
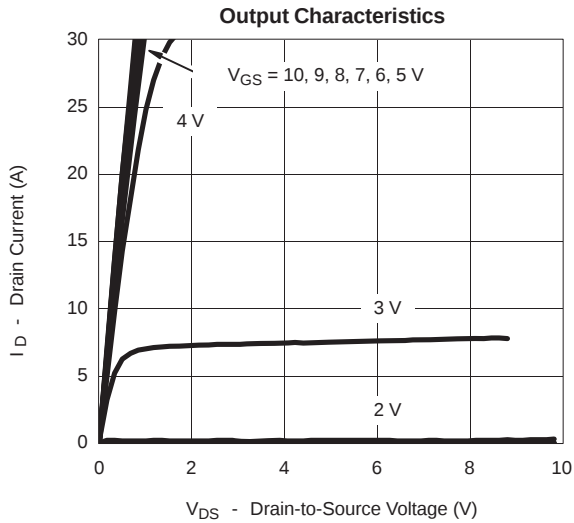
MOSFET ELECTRICAL CHARACTERISTICS $T_A=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24\text{V}$, $V_{GS}=0\text{V}$			2	μA
		$V_{DS}=24\text{V}$, $V_{GS}=0\text{V}$, $T_J=55^\circ\text{C}$			25	
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$	1		3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=7\text{A}$ (Note.1)			30	m Ω
		$V_{GS}=5\text{V}$, $I_D=4\text{A}$ (Note.1)			40	
		$V_{GS}=4.5\text{V}$, $I_D=3.5\text{A}$ (Note.1)			50	
On-State Drain Current	$I_{DS(on)}$	$V_{DS} \geq 5\text{V}$, $V_{GS} = 10\text{V}$	30			A
Forward Transconductance	g_{FS}	$V_{DS}=15\text{V}$, $I_D=7\text{A}$ (Note.1)		15		S
Total Gate Charge	Q_g	$V_{GS}=10\text{V}$, $V_{DS}=15\text{V}$, $I_D=7\text{A}$		24	50	nC
Gate Source Charge	Q_{gs}			2.8		
Gate Drain Charge	Q_{gd}			4.6		
Turn-On DelayTime	$t_{d(on)}$			14	30	
Turn-On Rise Time	t_r	$V_{GS}=10\text{V}$, $V_{DS}=25\text{V}$, $R_L=25\Omega$, $R_{GEN}=6\Omega$ $I_D=1\text{A}$		10	60	ns
Turn-Off DelayTime	$t_{d(off)}$			46	150	
Turn-Off Fall Time	t_f			17	140	
Body Diode Reverse Recovery Time	t_{rr}	$I_F=2\text{A}$, $dI/dt=100\text{A}/\mu\text{s}$		60		
Maximum Body-Diode Continuous Current	I_S				2.8	A
Diode Forward Voltage	V_{SD}	$I_S=2\text{A}$, $V_{GS}=0\text{V}$ (Note.1)			1.1	V

Note.1: Pulse test; pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics



RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics

