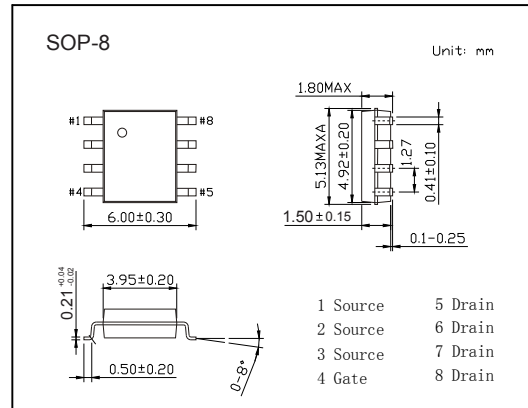
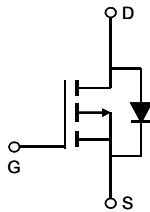


P-Channel MOSFET

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■ Features

- $V_{DS} (V) = -30V$
- $I_D = -12 A$ ($V_{GS} = -20V$)
- $R_{DS(ON)} < 13m\Omega$ ($V_{GS} = -20V$)
- $R_{DS(ON)} < 14m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 30m\Omega$ ($V_{GS} = -5V$)



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_A = 25^\circ C$	I_D	-12	A
	$T_A = 70^\circ C$		-10	
Pulsed Drain Current		I_{DM}	-60	
Avalanche Current		I_{AS}, I_{AR}	26	
Power Dissipation	$T_A = 25^\circ C$	P_D	3.1	W
	$T_A = 70^\circ C$		2	
Avalanche energy	$L = 0.3mH$	E_{AS}, E_{AR}	101	mJ
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	40	$^\circ C/W$
	Steady-State		75	
Thermal Resistance.Junction- to-Case	Steady-State	R_{thJC}	24	
Junction Temperature		T_J	150	$^\circ C$
Junction Storage Temperature Range		T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D = -250 \mu A$, $V_{GS} = 0V$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V$, $V_{GS} = 0V$			-1	μA
		$V_{DS} = -30V$, $V_{GS} = 0V$, $T_J = 55^\circ C$			-5	
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V$, $V_{GS} = \pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250 \mu A$	-1.2		-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -20V$, $I_D = -12A$			13	m Ω
		$V_{GS} = -10V$, $I_D = -12A$			14	
		$V_{GS} = -10V$, $I_D = -12A$, $T_J = 125^\circ C$			19	
		$V_{GS} = -5V$, $I_D = -7A$			30	
On state drain current	$I_{D(ON)}$	$V_{GS} = -10V$, $V_{DS} = -5V$	-60			A
Forward Transconductance	g_{FS}	$V_{DS} = -5V$, $I_D = -10.5A$		27		S
Input Capacitance	C_{iss}	$V_{GS} = 0V$, $V_{DS} = -15V$, $f = 1MHz$		2060	2600	pF
Output Capacitance	C_{oss}			370		
Reverse Transfer Capacitance	C_{rss}			295		
Gate resistance	R_g	$V_{GS} = 0V$, $V_{DS} = 0V$, $f = 1MHz$	1.2	2.4	3.6	Ω
Total Gate Charge	Q_g	$V_{GS} = -10V$, $V_{DS} = -15V$, $I_D = -12A$	24	30	36	nC
Gate Source Charge	Q_{gs}			4.6		
Gate Drain Charge	Q_{gd}			10		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS} = -10V$, $V_{DS} = -15V$, $R_L = 1.25 \Omega$, $R_G = 3 \Omega$		11		ns
Turn-On Rise Time	t_r			9.4		
Turn-Off DelayTime	$t_{d(off)}$			24		
Turn-Off Fall Time	t_f			12		
Body Diode Reverse Recovery Time	t_{rr}	$I_F = -12A$, $dI/dt = 100A/\mu s$		30	40	nC
Body Diode Reverse Recovery Charge	Q_{rr}			22		
Maximum Body-Diode Continuous Current	I_S				-4	A
Diode Forward Voltage	V_{SD}	$I_S = -1A$, $V_{GS} = 0V$			-1	V

■ Marking

Marking	4407 *****
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■ Typical Characteristics

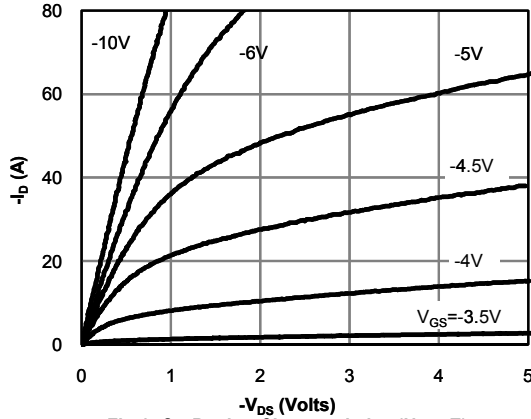


Fig 1: On-Region Characteristics (Note E)

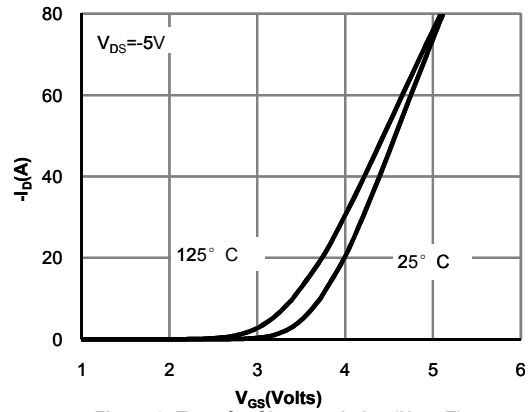


Figure 2: Transfer Characteristics (Note E)

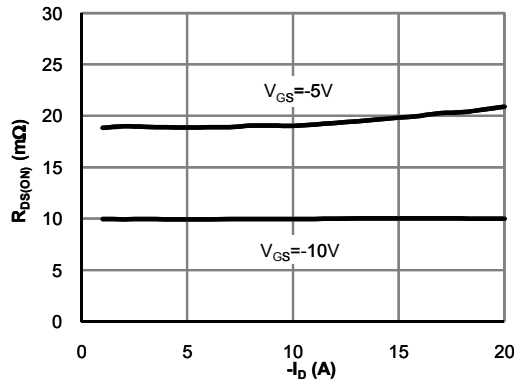


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

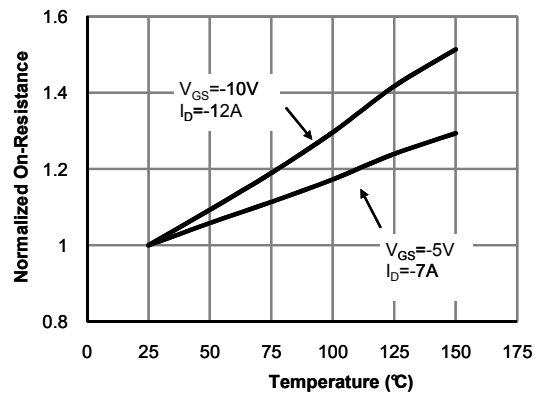


Figure 4: On-Resistance vs. Junction Temperature (Note E)

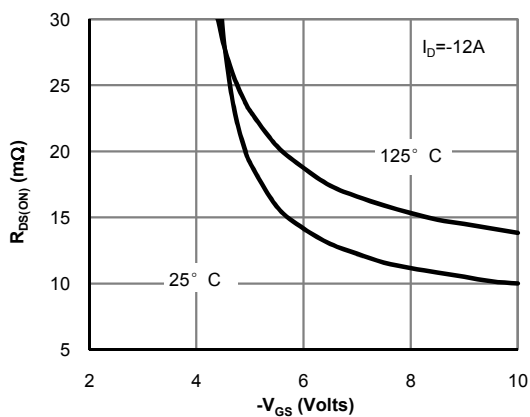


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

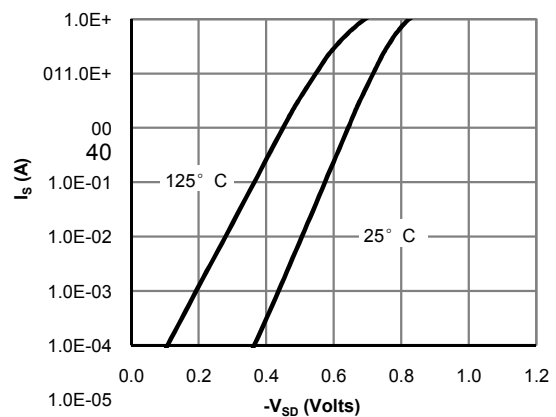


Figure 6: Body-Diode Characteristics (Note E)

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■ Typical Characteristics

