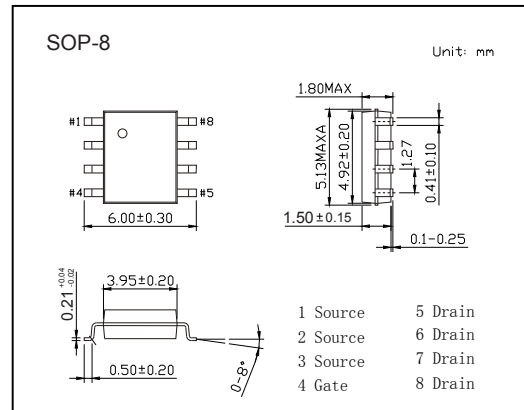
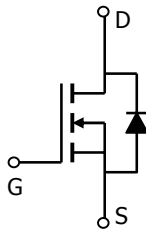


■ Features

- $V_{DS} (V) = 30V$
- $I_D = 18 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 5.5m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 6.2m\Omega (V_{GS} = 4.5V)$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	$T_A=25^\circ C$	18
		$T_A=70^\circ C$	15
Pulsed Drain Current	I_{DM}	80	A
Power Dissipation	P_D	$T_A=25^\circ C$	3.1
		$T_A=70^\circ C$	2
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	40
		Steady-State	75
Thermal Resistance.Junction- to-Lead	R_{thJL}	24	$^\circ C/W$
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 to 150	$^\circ C$

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$I_D=250\ \mu A, V_{GS}=0V$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V$			1	uA
		$V_{DS}=24V, V_{GS}=0V, T_J=55^\circ C$			5	
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\ \mu A$	0.8		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=18A$			5.5	m Ω
		$V_{GS}=10V, I_D=18A, T_J=125^\circ C$			7.4	
		$V_{GS}=4.5V, I_D=15A$			6.2	
On State Drain Current	$I_{D(ON)}$	$V_{GS}=4.5V, V_{DS}=5V$	80			A
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=18A$		102		S
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=15V, f=1MHz$		9130	10500	pF
Output Capacitance	C_{oss}			625		
Reverse Transfer Capacitance	C_{rss}			387		
Gate Resistance	R_g	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		0.4	0.5	Ω
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=15V, I_D=18A$		72.4	85	nC
Gate Source Charge	Q_{gs}			13.4		
Gate Drain Charge	Q_{gd}			16.8		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=15V, R_L=0.83\Omega, R_{GEN}=3\Omega$		11	15	ns
Turn-On Rise Time	t_r			7	11	
Turn-Off DelayTime	$t_{d(off)}$			99	135	
Turn-Off Fall Time	t_f			13	19.5	
Body Diode Reverse Recovery Time	t_{rr}	$I_F=18A, di/dt=100A/\mu s$		33	40	nC
Body Diode Reverse Recovery Charge	Q_{rr}			22.2	30	
Maximum Body-Diode Continuous Current	I_S				4.5	A
Diode Forward Voltage	V_{SD}	$I_S=1A, V_{GS}=0V$			1	V

Note : The static characteristics in Figures 1 to 6 are obtained using <300 μs pulses, duty cycle 0.5% max.

■ Marking

Marking	4410 ****
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■ Typical Characteristics

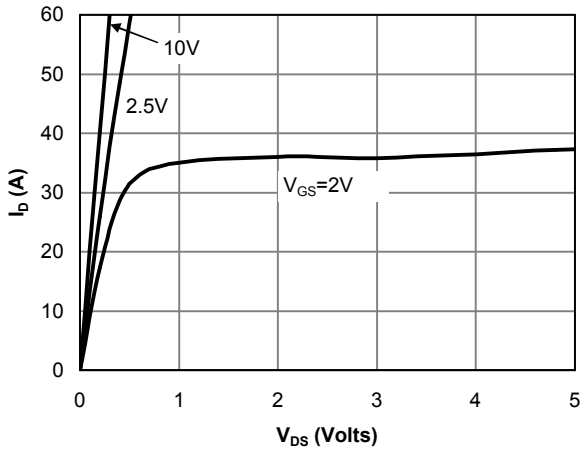


Fig 1: On-Region Characteristics

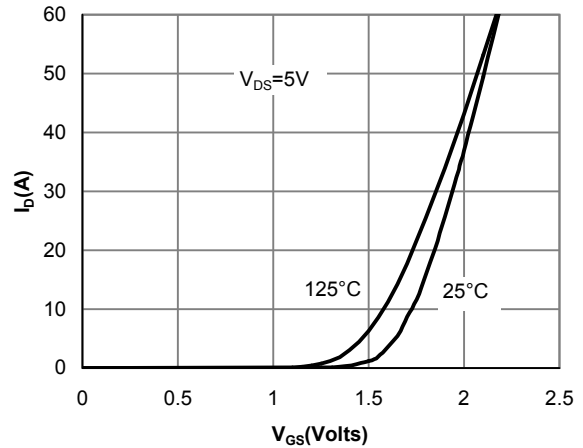


Figure 2: Transfer Characteristics

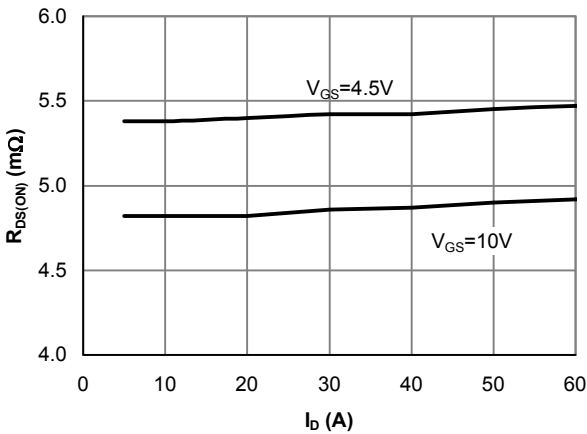


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

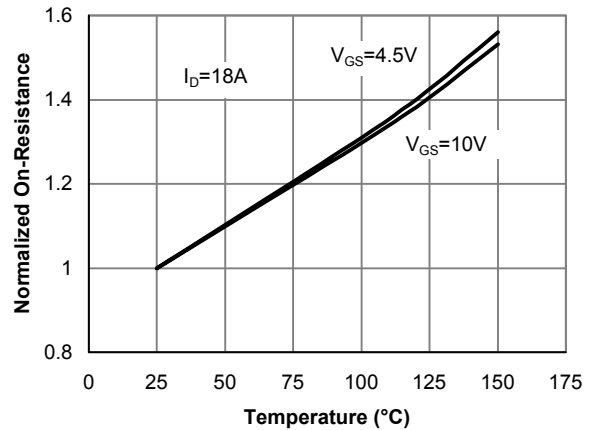


Figure 4: On-Resistance vs. Junction Temperature

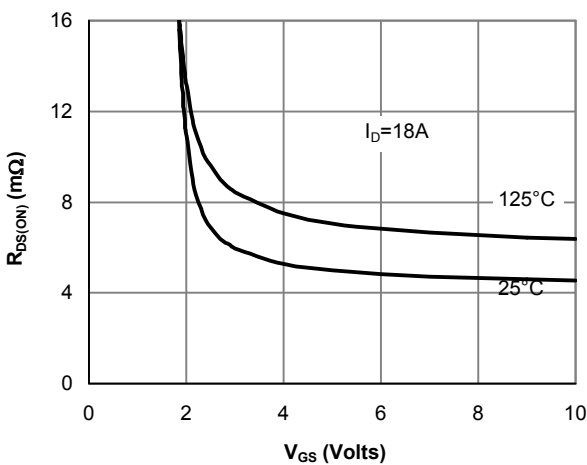


Figure 5: On-Resistance vs. Gate-Source Voltage

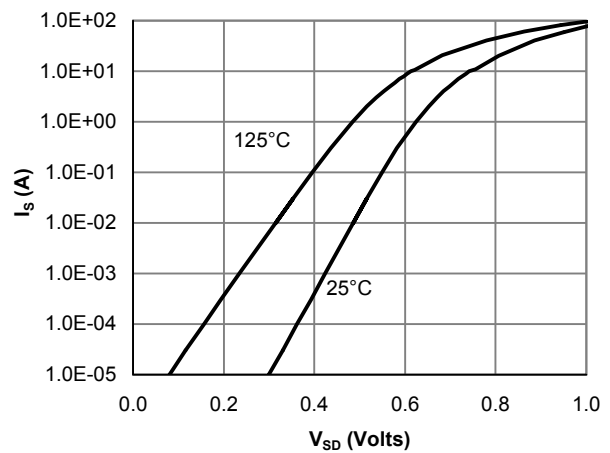


Figure 6: Body-Diode Characteristics

■ Typical Characteristics

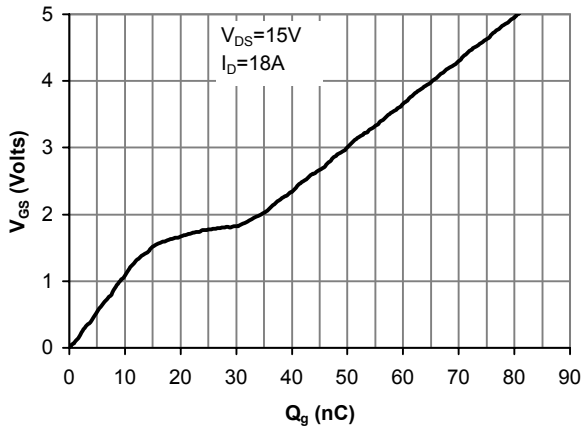


Figure 7: Gate-Charge Characteristics

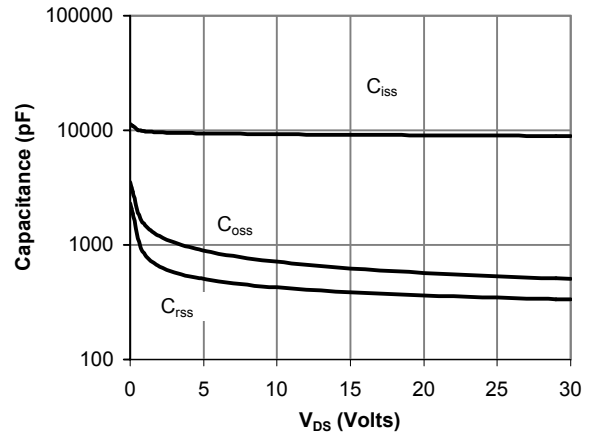


Figure 8: Capacitance Characteristics

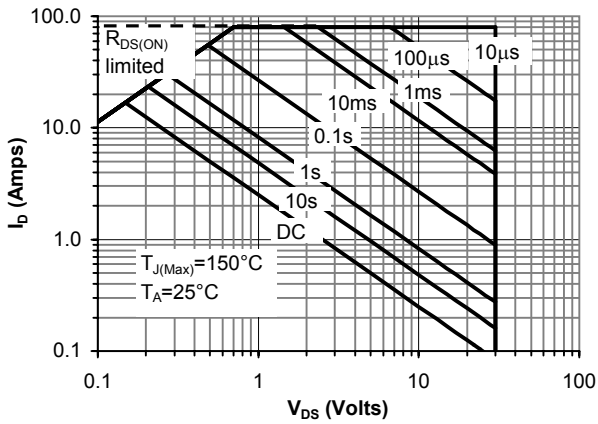


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

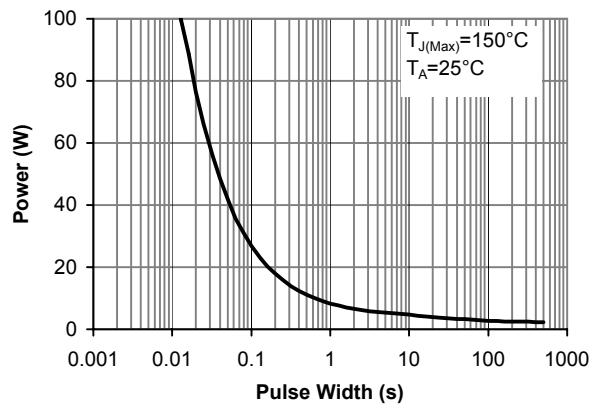


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

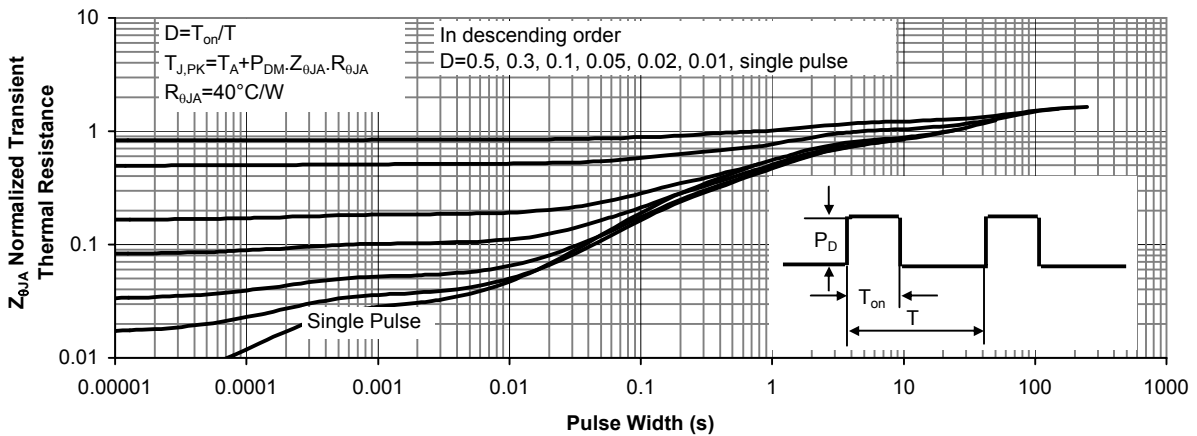


Figure 11: Normalized Maximum Transient Thermal Impedance