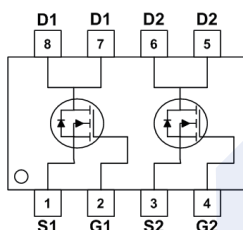
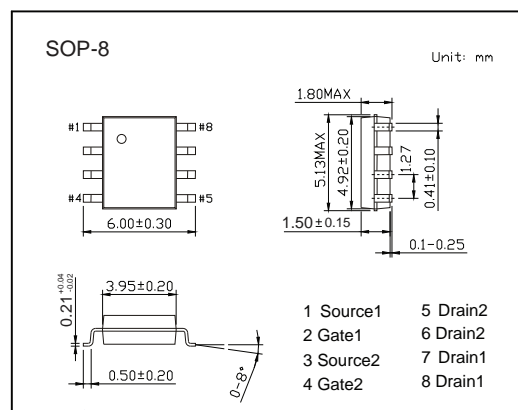


Dual N-Channel MOSFET

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■ Features

- $V_{DS} (V) = 60V$
- $I_D = 6.5A (V_{GS} = 10V)$
- $R_{DS(ON)} < 27m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 39m\Omega (V_{GS} = 4.5V)$

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	$T_A=25^\circ C$	6.5
		$T_A=70^\circ C$	5.2
Pulsed Drain Current	I_{DM}	30	A
Avalanche Current	I_{AR}, I_{AS}	29	A
Repetitive Avalanche Energy	$L=0.1mH$	E_{AR}, E_{AS}	42
Power Dissipation	P_D	$T_A=25^\circ C$	2
		$T_A=70^\circ C$	1.28
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	62.5
		Steady-State	110
Thermal Resistance.Junction- to-Lead	R_{thJL}	60	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	$^\circ C$

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μA, V _{GS} =0V	60			V	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μA	
		V _{DS} =60V, V _{GS} =0V, T _J =55°C			5		
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.2		2.3	V	
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =6.5A			27	mΩ	
		V _{GS} =10V, I _D =6.5A T _J =125°C			59		
		V _{GS} =4.5V, I _D =3A			39		
On State Drain Current	I _{D(ON)}	V _{GS} =10V, V _{DS} =5V	20			A	
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =6.5A		11		S	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =30V, f=1MHz		450	540	pF	
Output Capacitance	C _{oss}			60			
Reverse Transfer Capacitance	C _{rss}			25			
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	1.3		2	Ω	
Total Gate Charge (10V)	Q _g	V _{GS} =10V, V _{DS} =30V, I _D =6.5A		8.5	10.5	nC	
Total Gate Charge (4.5V)				4.3	5.5		
Gate Source Charge			Q _{gs}		1.6		
Gate Drain Charge			Q _{gd}		2.2		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =30V, R _L =6.7Ω, R _{GEN} =3Ω		4.7		ns	
Turn-On Rise Time	t _r			2.3			
Turn-Off DelayTime	t _{d(off)}			15.7			
Turn-Off Fall Time	t _f			1.9			
Body Diode Reverse Recovery Time	t _{rr}	I _F = 6.5A, di/dt= 100A/us		27.5	35	nA	
Body Diode Reverse Recovery Charge	Q _{rr}			32			
Maximum Body-Diode Continuous Current	I _S				6	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 <300us pulses, duty cycle 0.5% max.

■ Marking

Marking	K5785 KA****
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Typical Characteristics

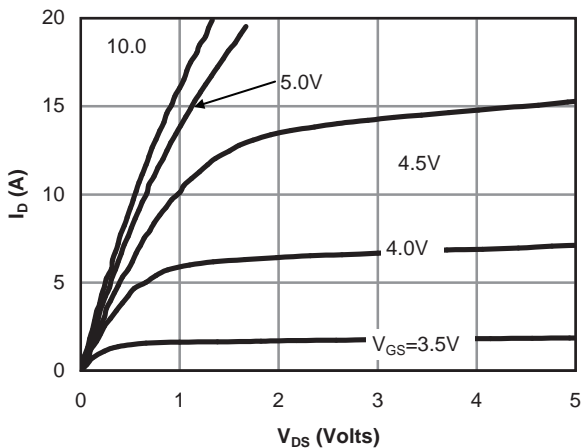


Fig 1: On-Region Characteristics

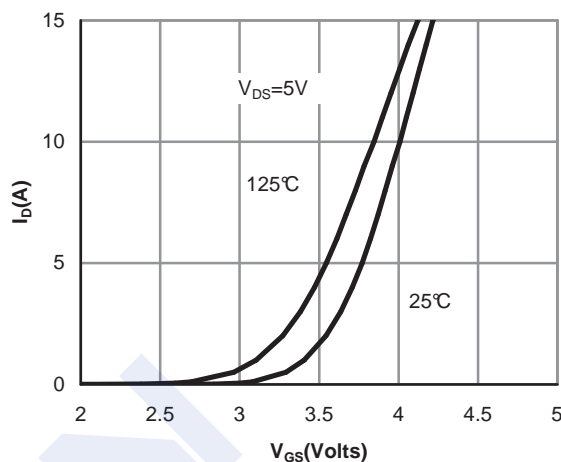


Figure 2: Transfer Characteristics

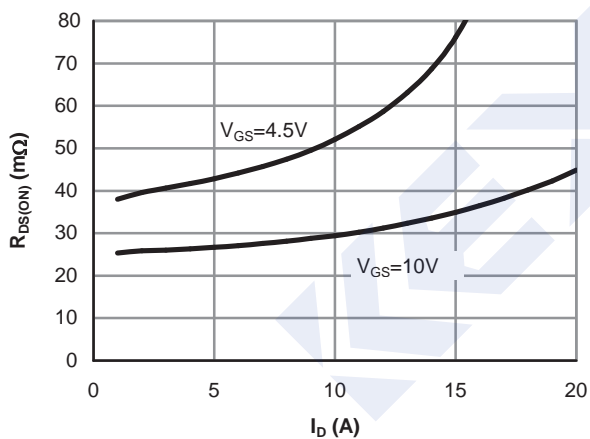


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

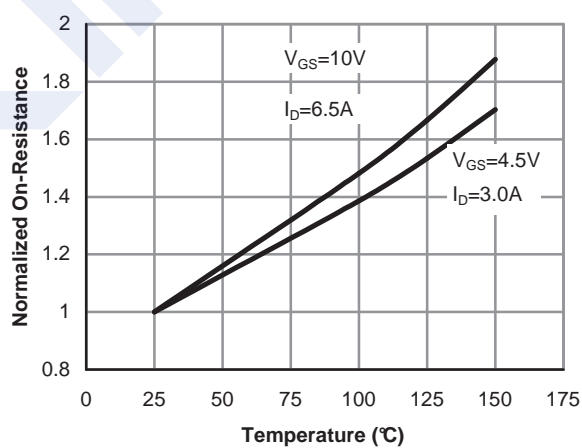


Figure 4: On-Resistance vs. Junction Temperature

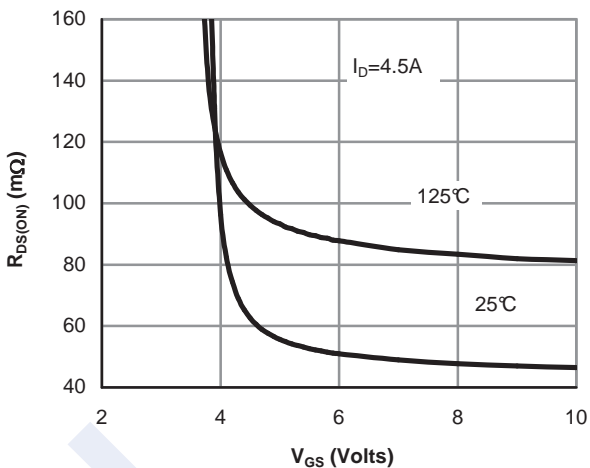


Figure 5: On-Resistance vs. Gate-Source Voltage

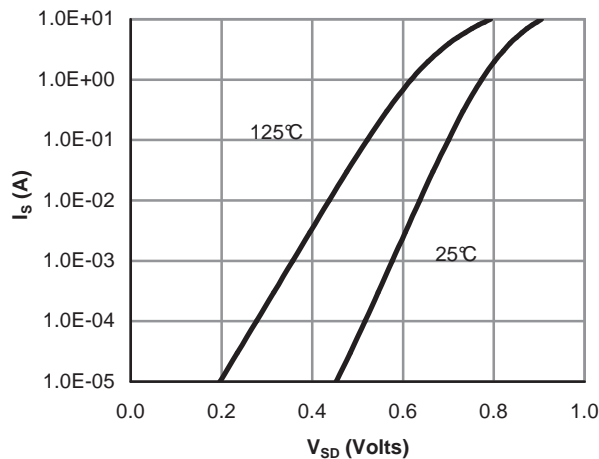


Figure 6: Body-Diode Characteristics

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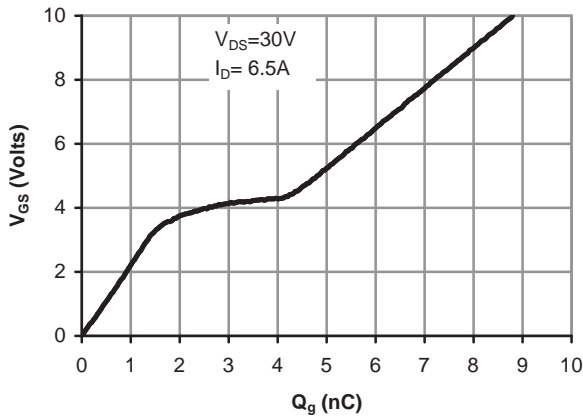


Figure 7: Gate-Charge Characteristics

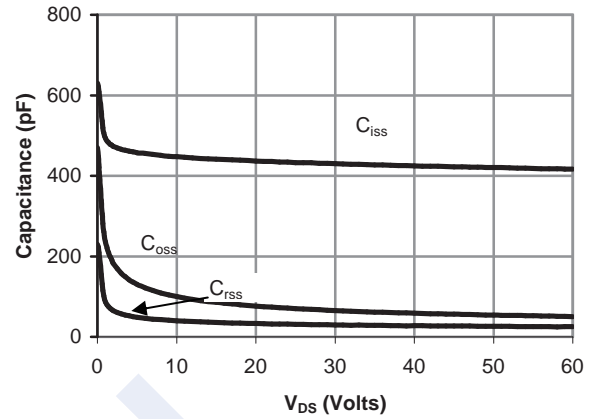


Figure 8: Capacitance Characteristics

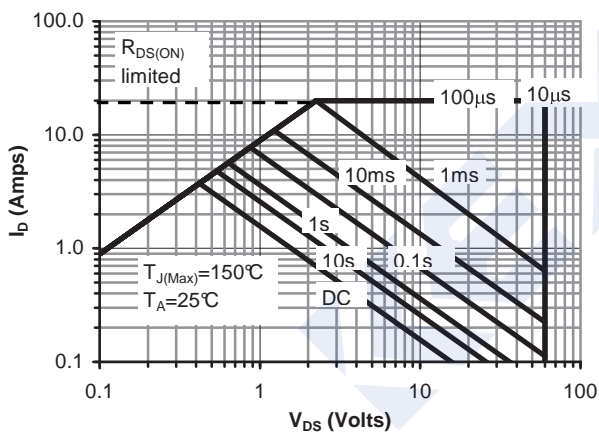


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

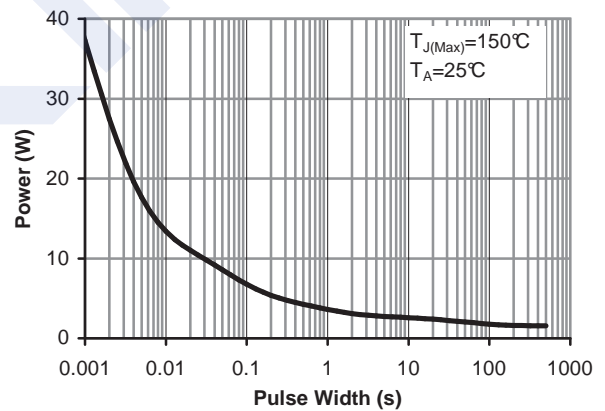


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

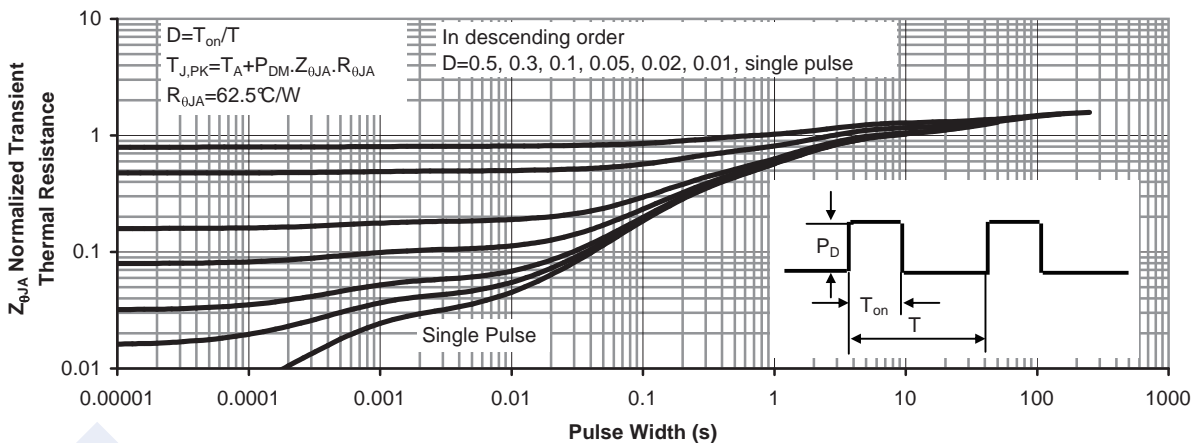


Figure 11: Normalized Maximum Transient Thermal Impedance