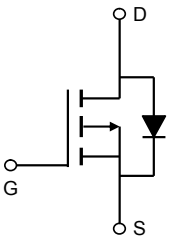
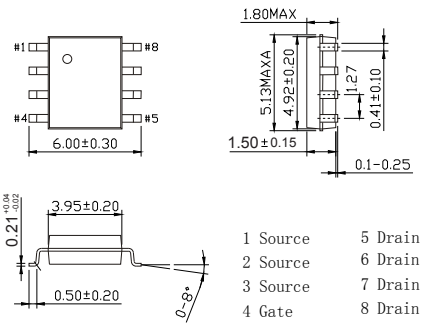
■ Features

- V_{DS} (V) =-30V
- I_D =-15 A (V_{GS} =-10V)
- $R_{DS(ON)}$ < 7.5mΩ (V_{GS} =-10V)
- $R_{DS(ON)}$ < 12mΩ (V_{GS} =-4.5V)



SOP-8

Unit: mm



1 Source	5 Drain
2 Source	6 Drain
3 Source	7 Drain
4 Gate	8 Drain

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current	T_A=25°C	I_D	-15	A
	T_A=70°C		-12.8	
Pulsed Drain Current		I_{DM}	-80	
Avalanche Current		I_{AS},I_{AR}	30	
Avalanche energy	L=0.1mH	E_{AS},E_{AR}	135	mJ
Power Dissipation	T_A=25°C	P_D	3.1	W
	T_A=70°C		2	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R_{thJA}	40	℃/W
	Steady-State		75	
Thermal Resistance.Junction- to-Lead		R_{thJL}	24	
Junction Temperature		T_J	150	℃
Junction Storage Temperature Range		T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V			-5	uA
		V_{DS}=-30V, V_{GS}=0V, T_J=55℃			-25	
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	-1.4		-2.7	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-15A			7.5	mΩ
		V_{GS}=-10V, I_D=-15A T_J=125℃			11.5	
		V_{GS}=-4.5V, I_D=-10A			12	
On state drain current	$I_{D(ON)}$	V_{GS}=-10V, V_{DS}=-5V	-80			A
Forward Transconductance	g_{FS}	V_{DS}=-5V, I_D=-15A	35	50		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-15V, f=1MHz		5270	6400	pF
Output Capacitance	C_{oss}			945		
Reverse Transfer Capacitance	C_{rss}			745		
Gate resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz		2	3	Ω
Total Gate Charge (10V)	Q_g	V_{GS}=-10V, V_{DS}=-15V, I_D=-15A		100	120	nC
Total Gate Charge (4.5V)				51.5		
Gate Source Charge	Q_{gs}			14.5		
Gate Drain Charge	Q_{gd}			23		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=-10V, V_{DS}=-15V, R_L=1Ω, R_{GEN}=3Ω		14		ns
Turn-On Rise Time	t_r			16.5		
Turn-Off DelayTime	$t_{d(off)}$			76.5		
Turn-Off Fall Time	t_f			37.5		
Body Diode Reverse Recovery Time	t_{rr}	I_F=-15A, dI/dt=100A/us		36.7	45	
Body Diode Reverse Recovery Charge	Q_{rr}			28		nC
Maximum Body-Diode Continuous Current	I_S				-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.

■ Typical Characterisitics

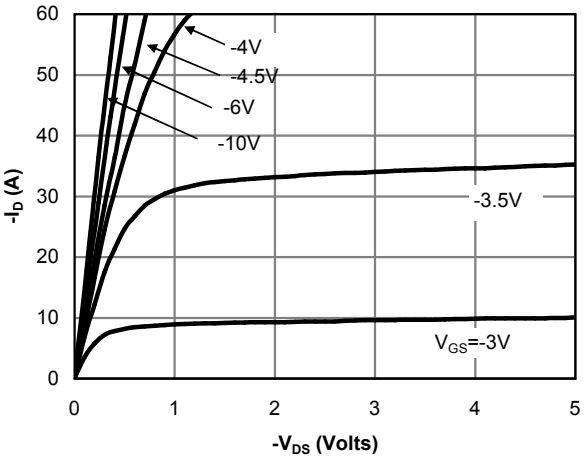


Fig 1: On-Region Characteristics (Note E)

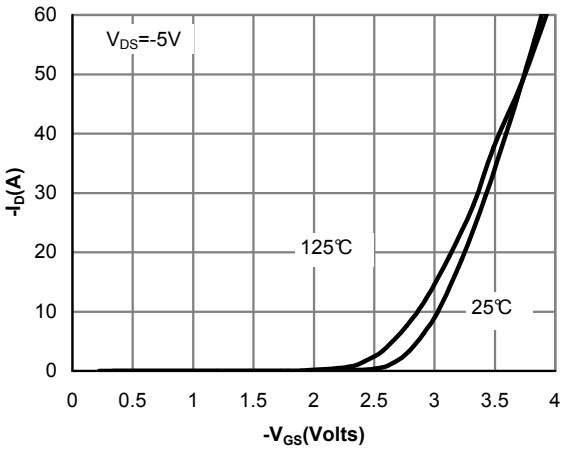


Figure 2: Transfer Characteristics (Note E)

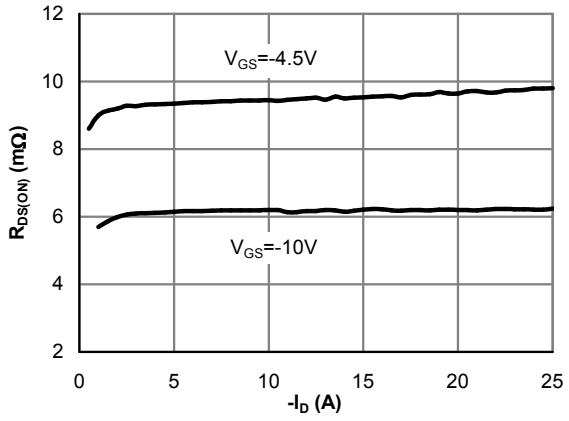


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

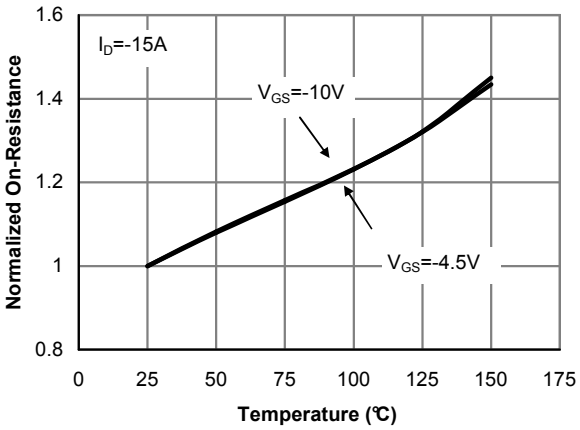


Figure 4: On-Resistance vs. Junction Temperature (Note E)

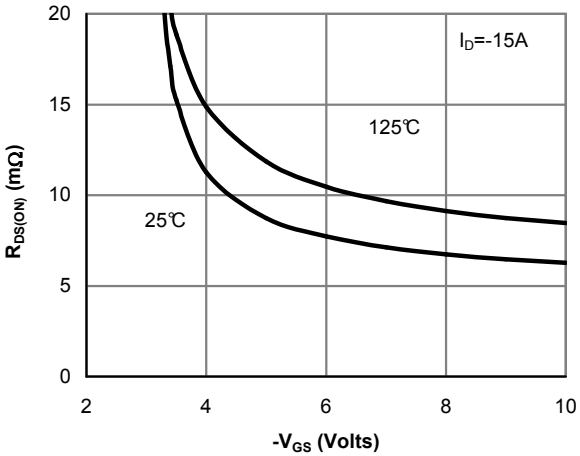


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

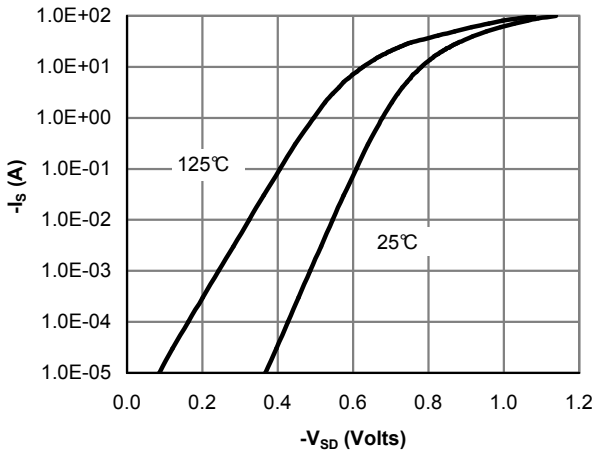


Figure 6: Body-Diode Characteristics (Note E)

■ Typical Characterisitics

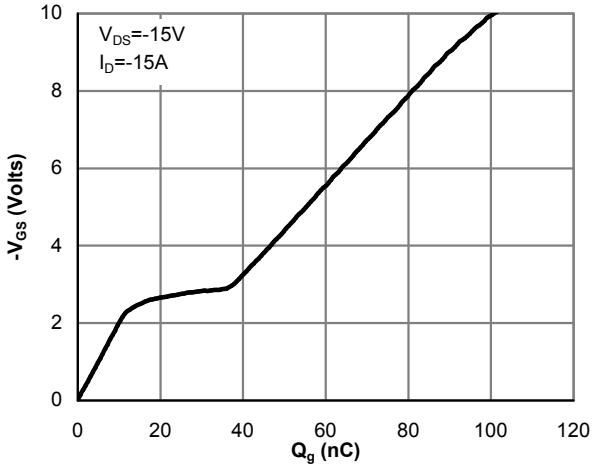


Figure 7: Gate-Charge Characteristics

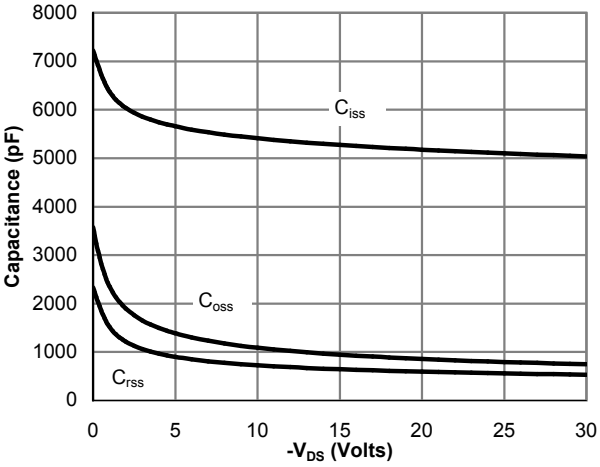


Figure 8: Capacitance Characteristics

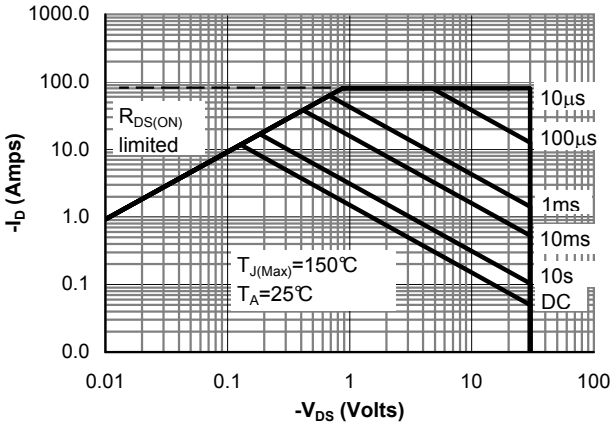


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

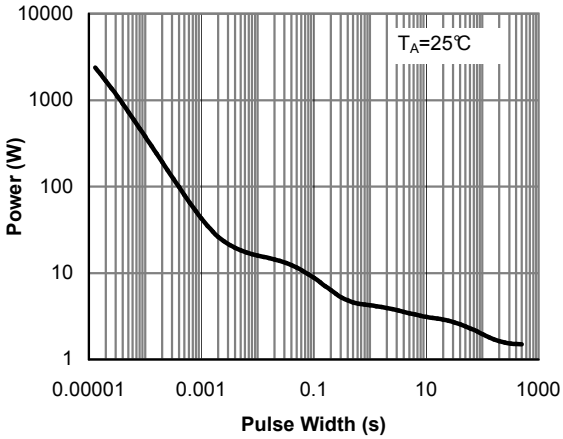


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

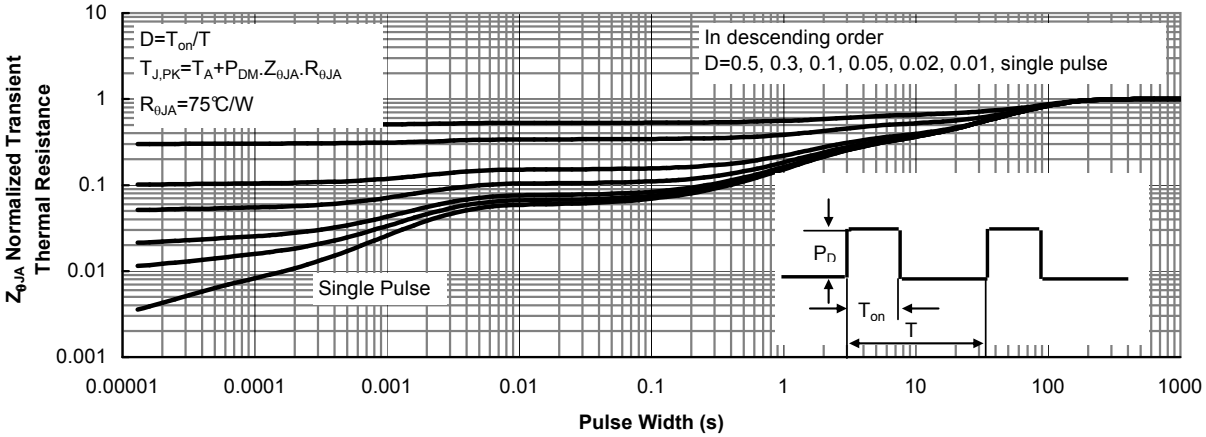


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)