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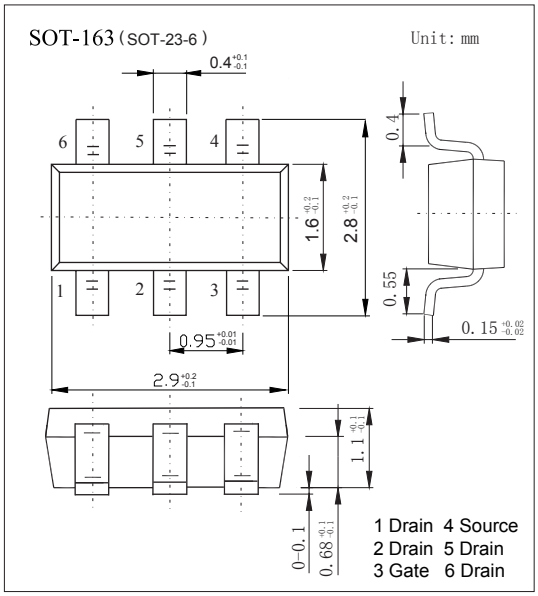
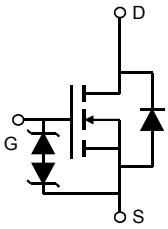


■ Features

- V_{DS} (V) = 20V
- I_D = 8.6 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 17mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 18mΩ (V_{GS} = 4.5V)
- $R_{DS(ON)}$ < 24mΩ (V_{GS} = 2.5V)
- $R_{DS(ON)}$ < 33mΩ (V_{GS} = 1.8V)
- ESD Rating: 2000V HBM



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±12	
Continuous Drain Current	TA=25℃	I_D	8.6	A
	TA=70℃		6.8	
Pulsed Drain Current		I_{DM}	30	
Power Dissipation	TA=25℃	P_D	2	W
	TA=70℃		1.28	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R_{thJA}	62.5	℃/W
	Steady-State		110	
Thermal Resistance.Junction- to-Lead		R_{thJL}	50	
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	20			V
Gate-Source Breakdown Voltage	BV_{GSO}	V_{DS}=0V, I_G=±250uA	±12			
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=16V, V_{GS}=0V			10	uA
		V_{DS}=16V, V_{GS}=0V, T_J=55℃			25	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±10V			±10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250 uA	0.5		1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=8.5A			17	mΩ
		V_{GS}=10V, I_D=8.5A T_J=125℃			20	
		V_{GS}=4.5V, I_D=5A			18	
		V_{GS}=2.5V, I_D=4A			24	
		V_{GS}=1.8V, I_D=3A			33	
On State Drain Current	$I_{D(ON)}$	V_{GS}=4.5V, V_{DS}=5V	30			A
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=8A		36		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=10V, f=1MHz		1810		pF
Output Capacitance	C_{oss}			232		
Reverse Transfer Capacitance	C_{rss}			200		
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz		1.6		Ω
Total Gate Charge	Q_g	V_{GS}=4.5V, V_{DS}=10V, I_D=8.5A		17.9		nC
Gate Source Charge	Q_{gs}			1.5		
Gate Drain Charge	Q_{gd}			4.7		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=10V, R_L=1.2Ω,R_G=3Ω		2.5		ns
Turn-On Rise Time	t_r			7.2		
Turn-Off DelayTime	$t_{d(off)}$			49		
Turn-Off Fall Time	t_f			10.8		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 8.5A, dI/dt= 100A/us		22		
Body Diode Reverse Recovery Charge	Q_{rr}			9.8		nC
Maximum Body-Diode Continuous Current	I_S				2.9	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V			1	V

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

■ Marking

Marking	D4**

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■ Typical Characterisitics

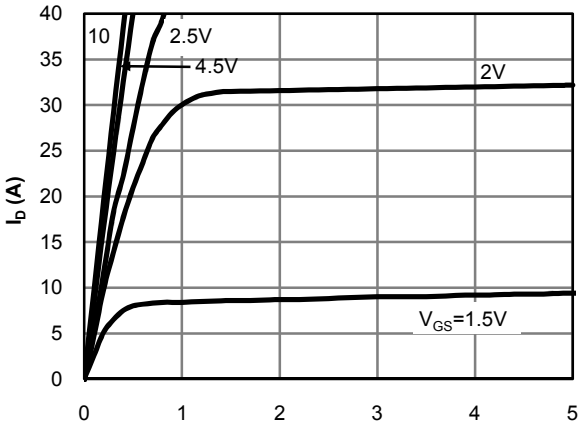


Fig 1: On-Region Characteristics

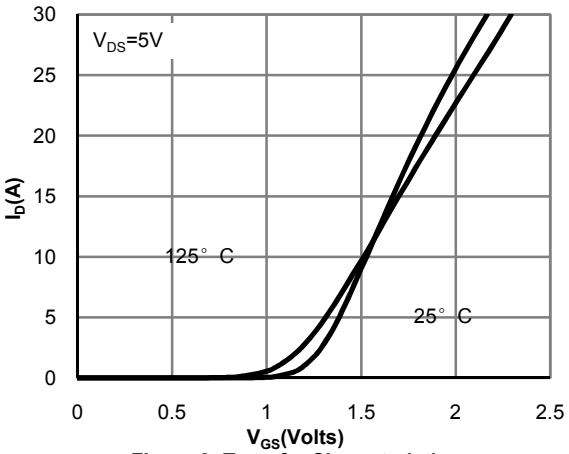


Figure 2: Transfer Characteristics

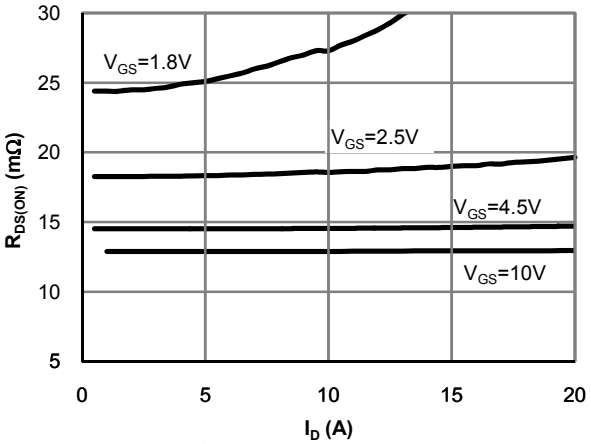


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

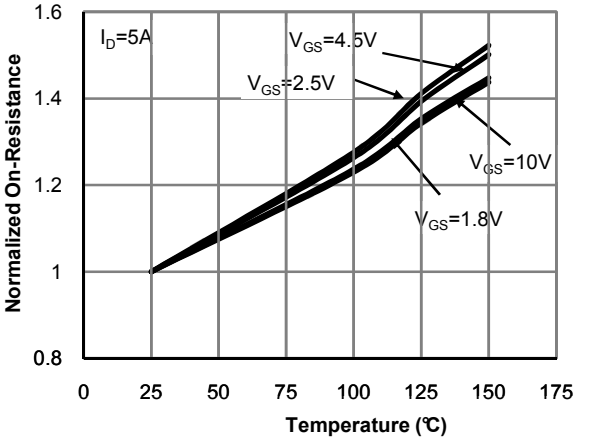
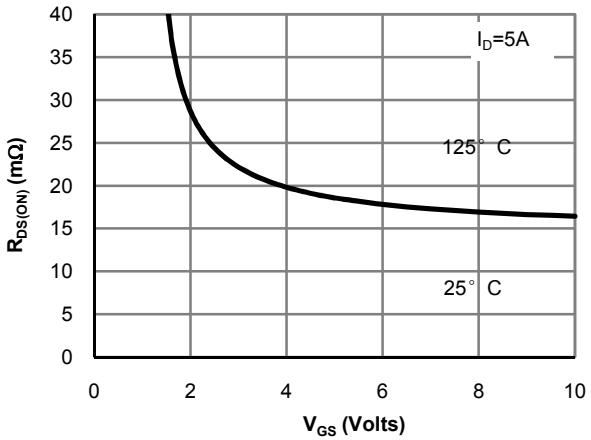


Figure 4: On-Resistance vs. Junction Temperature



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

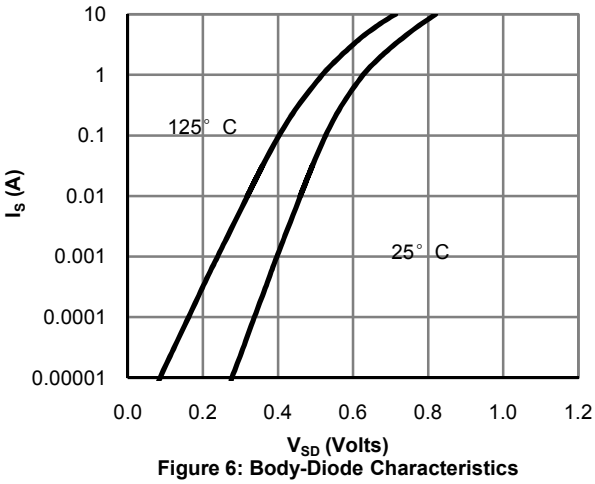


Figure 6: Body-Diode Characteristics

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■ Typical Characterisitics

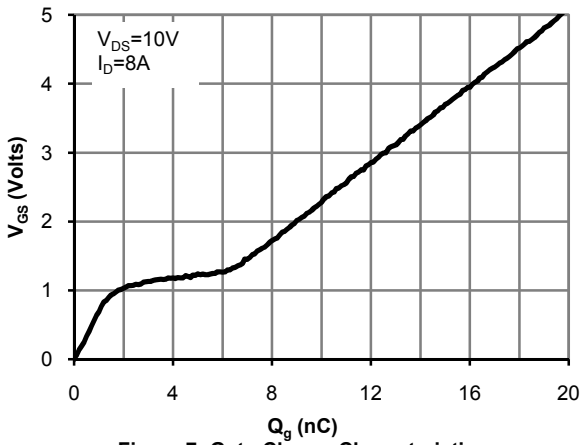

Figure 7: Gate-Charge Characteristics

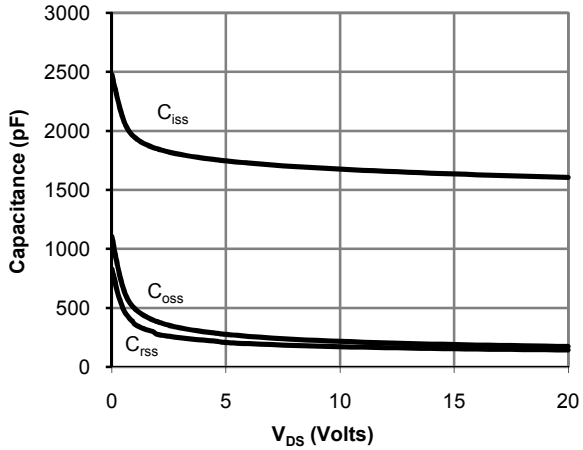

Figure 8: Capacitance Characteristics

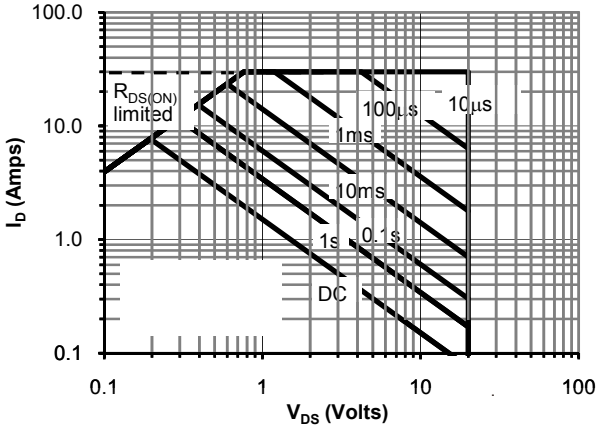

Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

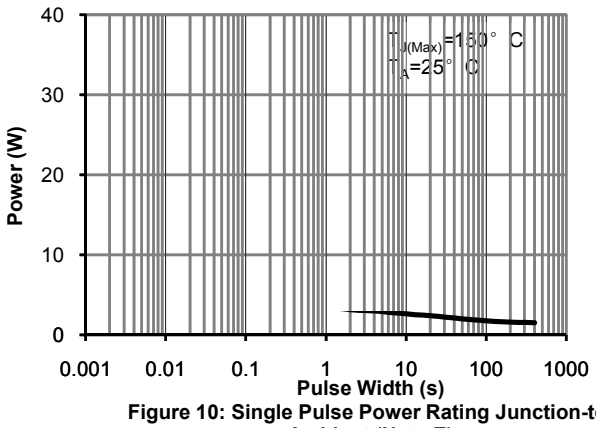

Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

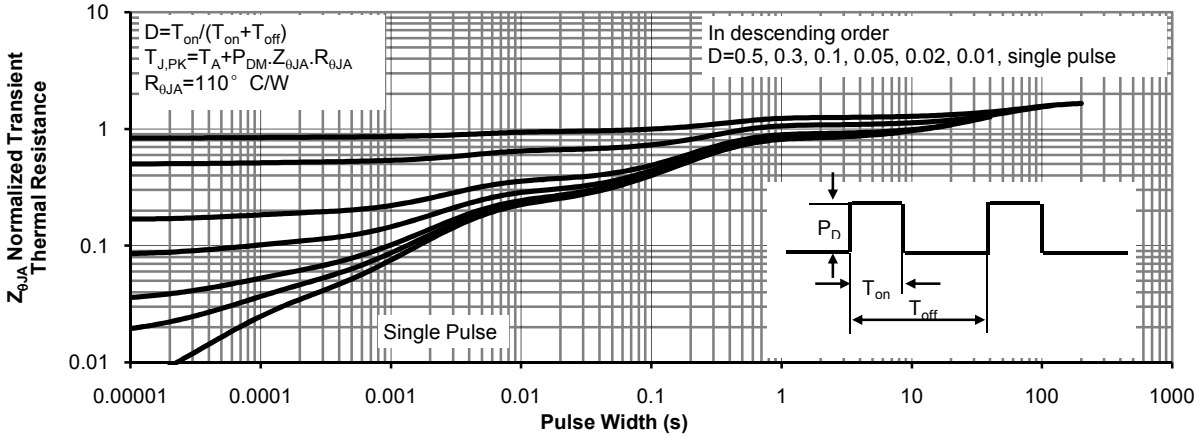

Figure 11: Normalized Maximum Transient Thermal Impedance