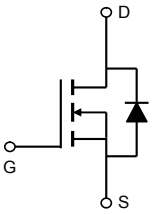
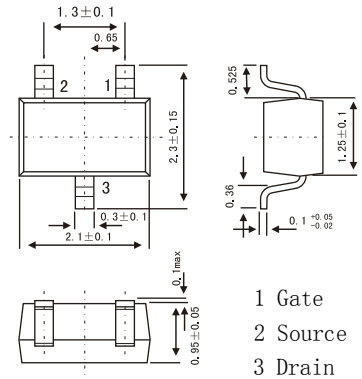
■ Features

- $V_{DS\,(V)}$ = 30V
- I_D = 1.7 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 55mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 65mΩ (V_{GS} = 4.5V)
- $R_{DS(ON)}$ < 85mΩ (V_{GS} = 2.5V)



SOT-323 Unit:mm



1 Gate
2 Source
3 Drain

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±12	
Continuous Drain Current	Ta=25℃	I_D	1.7	A
	Ta=70℃		1.3	
Pulsed Drain Current		I_{DM}	15	
Power Dissipation	Ta=25℃	P_D	0.35	W
	Ta=70℃		0.22	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R_{thJA}	360	℃/W
	Steady-State		425	
Thermal Resistance.Junction- to-Case		R_{thJC}	320	
Junction Temperature		T_J	150	℃
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			1	uA
		V_{DS}=30V, V_{GS}=0V, T_J=55℃			5	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±12V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	0.5	1	1.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=1.7A		45	55	mΩ
		V_{GS}=10V, I_D=1.7A T_J=125℃		70	84	
		V_{GS}=4.5V, I_D=1.5A		50	65	
		V_{GS}=2.5V, I_D=1A		61	85	
On State Drain Current	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=5V	15			A
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=1.7A		14		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=15V, f=1MHz	185	235	285	pF
Output Capacitance	C_{oss}		25	35	45	
Reverse Transfer Capacitance	C_{rss}		10	18	25	
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz	2.1	4.3	6.5	Ω
Total Gate Charge (10V)	Q_g	V_{GS}=10V, V_{DS}=15V, I_D=1.7A		10	12	nC
Total Gate Charge (4.5V)				4.7		
Gate Source Charge	Q_{gs}			0.95		
Gate Drain Charge	Q_{gd}			1.6		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=15V, R_L=8Ω,R_{GEN}=3Ω		3.5		ns
Turn-On Rise Time	t_r			1.5		
Turn-Off DelayTime	$t_{d(off)}$			17.5		
Turn-Off Fall Time	t_f			2.5		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 1.7A, dI/dt= 100A/μs		8.5	11	
Body Diode Reverse Recovery Charge	Q_{rr}			2.6	3.5	nC
Maximum Body-Diode Continuous Current	I_S				1.5	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V		0.75	1	V

■ Typical Characterisitics

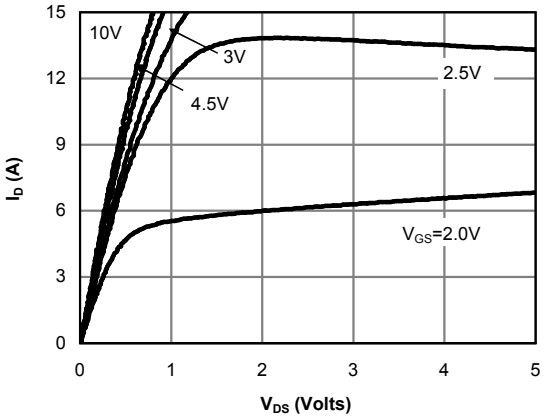


Fig 1: On-Region Characteristics

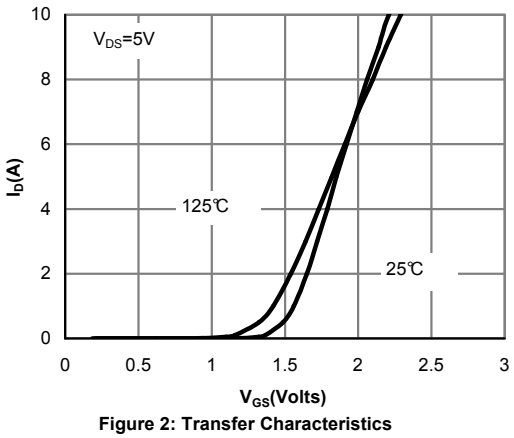


Figure 2: Transfer Characteristics

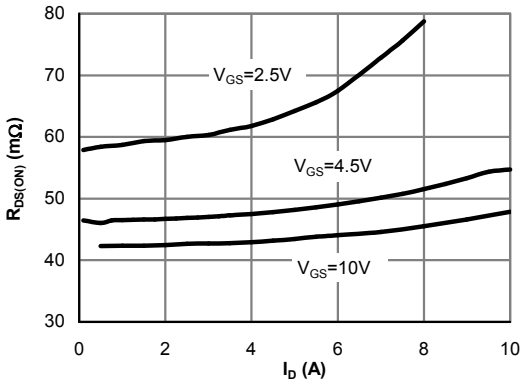


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

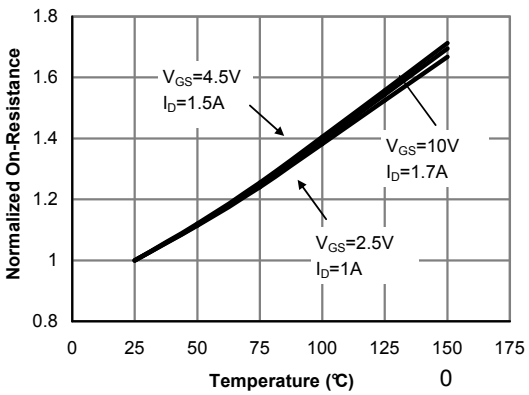


Figure 4: On-Resistance vs. Junction Temperature

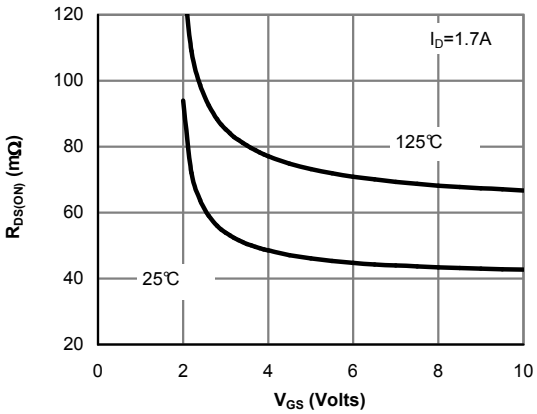


Figure 5: On-Resistance vs. Gate-Source Voltage

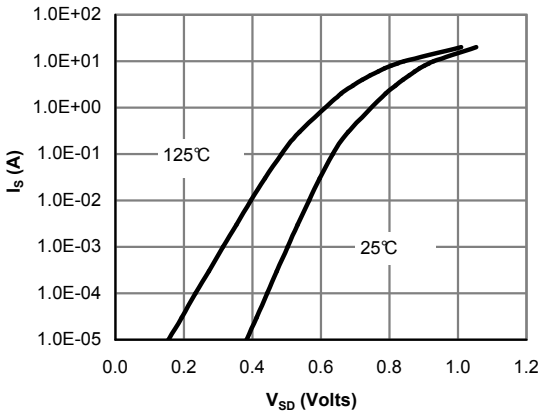


Figure 6: Body-Diode Characteristics

■ Typical Characterisitics

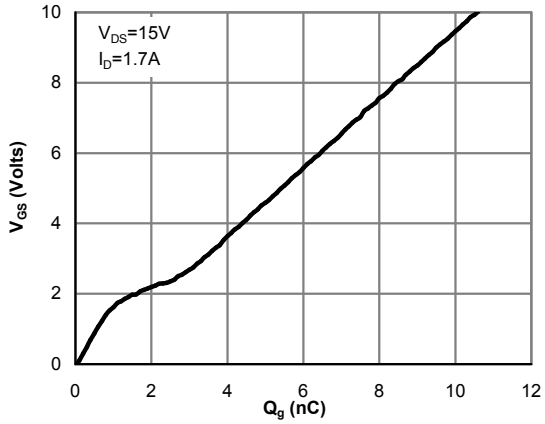


Figure 7: Gate-Charge Characteristics

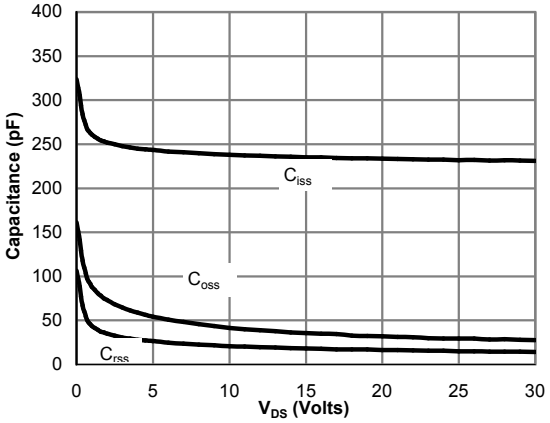


Figure 8: Capacitance Characteristics

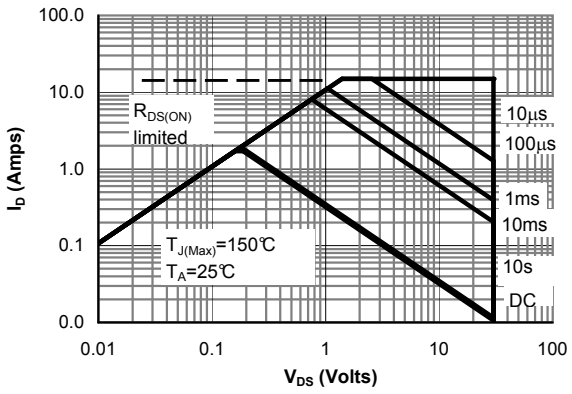


Figure 9: Maximum Forward Biased Safe Operating Area

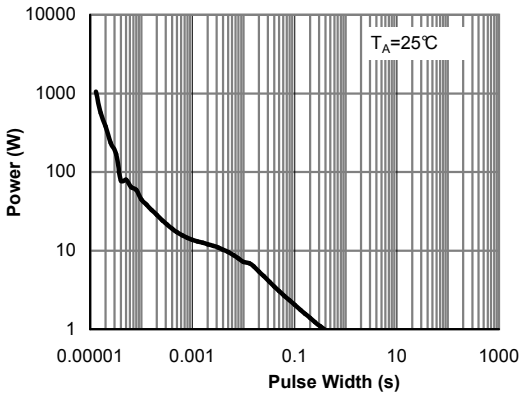


Figure 10: Single Pulse Power Rating Junction-to-Ambient

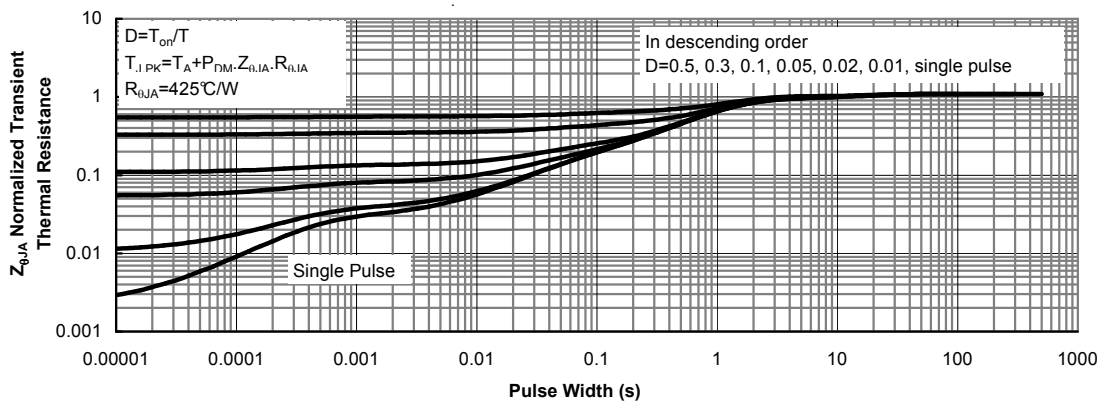


Figure 11: Normalized Maximum Transient Thermal Impedance