

**Product Summary**

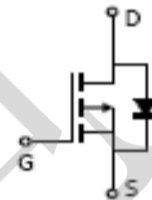
<b>BVDSS</b>	<b>RDSON</b>	<b>ID</b>
-100V	750mΩ	-1 A

**Application**

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

**Package and Pin Configuration**

**Circuit diagram**



**Marking:**



**Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)**

PARAMETER	SYMBOL	LIMIT	UNITS	
Drain-Source Voltage	V <sub>DS</sub>	-100	V	
Gate-Source Voltage	V <sub>GS</sub>	±20		
Continuous Drain Current (Note 4)	I <sub>D</sub>	T <sub>A</sub> =25°C	-1	A
		T <sub>A</sub> =70°C	-0.75	
Pulsed Drain Current (Note 1)	I <sub>DM</sub>	-3.6		
Power Dissipation	P <sub>D</sub>	T <sub>A</sub> =25°C	1.25	W
		T <sub>A</sub> =70°C	0.8	
Single Pulse Avalanche Energy (Note 6)	E <sub>AS</sub>	0.2	mJ	
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~150	°C	
Typical Thermal resistance	R <sub>θJA</sub>	100	°C/W	
- Junction to Ambient (Note 4,5)				

**Electrical Characteristics (T<sub>J</sub>=25 °C, unless otherwise noted)**

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
<b>Static</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250uA	-100	-	-	V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250uA	-1	-2	-2.5	
Drain-Source On-State Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-0.9A	-	500	650	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-0.45A	-	620	750	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-80V, V <sub>GS</sub> =0V	-	-	-1	uA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	-	-	±100	nA
<b>Dynamic</b> (Note 7)						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-50V, I <sub>D</sub> =-1A, V <sub>GS</sub> =-10V (Note 2,3)	-	8	-	nC
Gate-Source Charge	Q <sub>gs</sub>		-	1.8	-	
Gate-Drain Charge	Q <sub>gd</sub>		-	1.4	-	
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-15V, V <sub>GS</sub> =0V, f=1MHZ	-	448	-	pF
Output Capacitance	C <sub>oss</sub>		-	28	-	
Reverse Transfer Capacitance	C <sub>rss</sub>		-	21	-	
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DS</sub> =-50V, I <sub>D</sub> =1A, V <sub>GS</sub> =-10V, R <sub>G</sub> =6.2Ω (Note 2,3)	-	3.7	-	ns
Turn-On Rise Time	t <sub>r</sub>		-	25	-	
Turn-Off Delay Time	t <sub>d(off)</sub>		-	21	-	
Turn-Off Fall Time	t <sub>f</sub>		-	22	-	
<b>Drain-Source Diode</b>						
Maximum Continuous Drain-Source Diode Forward Current	I <sub>S</sub>	---	-	-	-1.5	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1A, V <sub>GS</sub> =0V	-	-0.82	-1.2	V



Typical Electrical and Thermal Characteristics

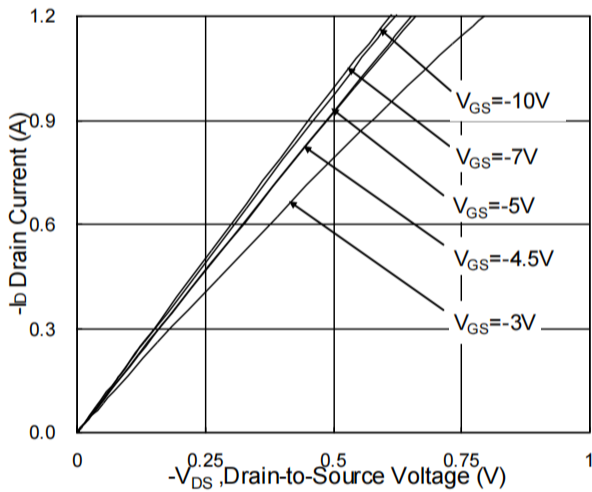


Fig.1 Typical Output Characteristics

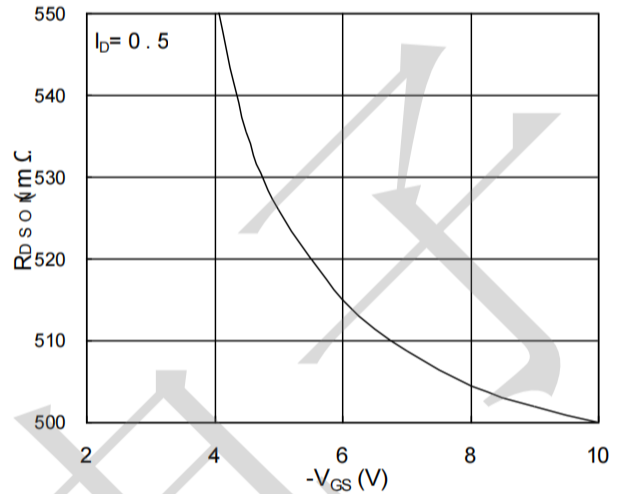


Fig.2 On-Resistance vs. Gate-Source

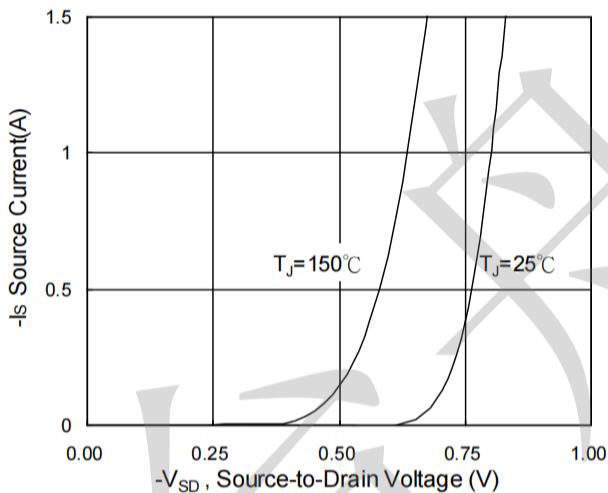


Fig.3 Forward Characteristics Of Reverse

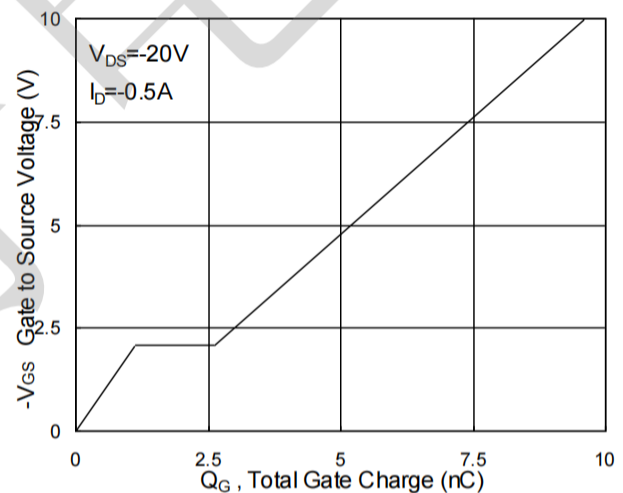


Fig.4 Gate-Charge Characteristics

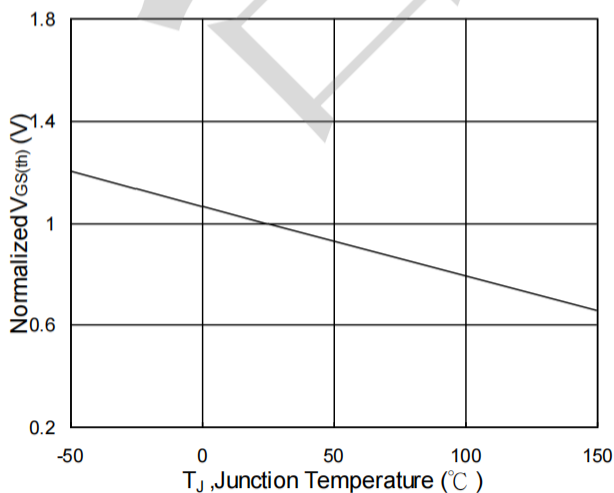


Fig.5 Normalized  $V_{GS(th)}$  vs.  $T_J$

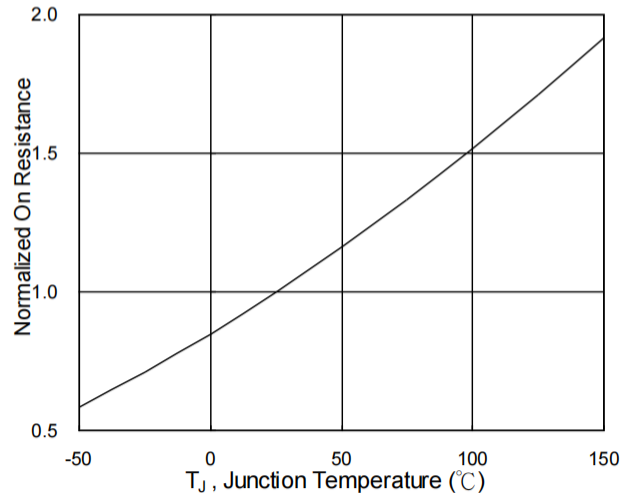
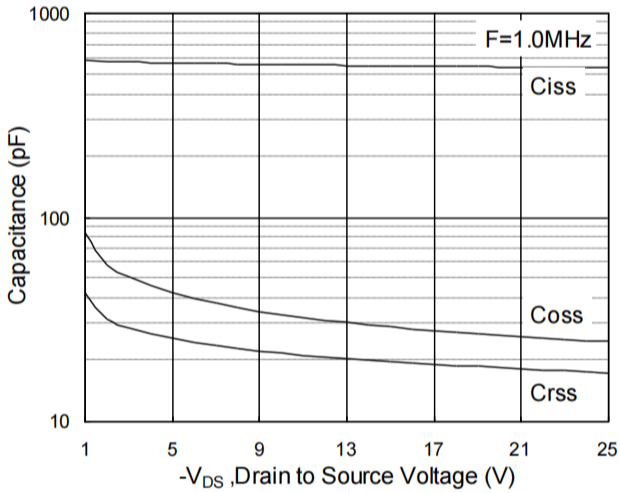
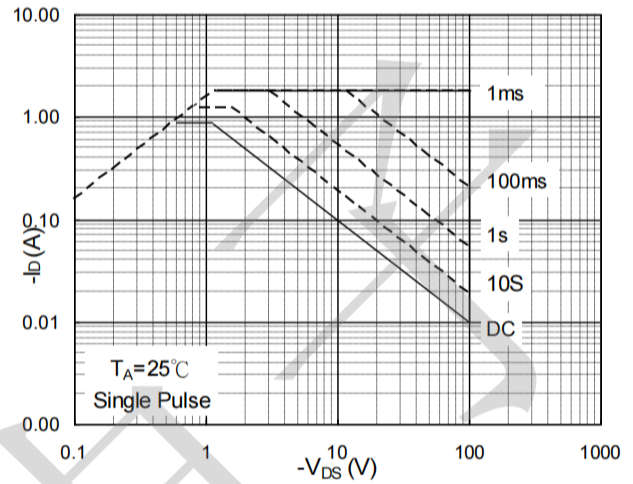


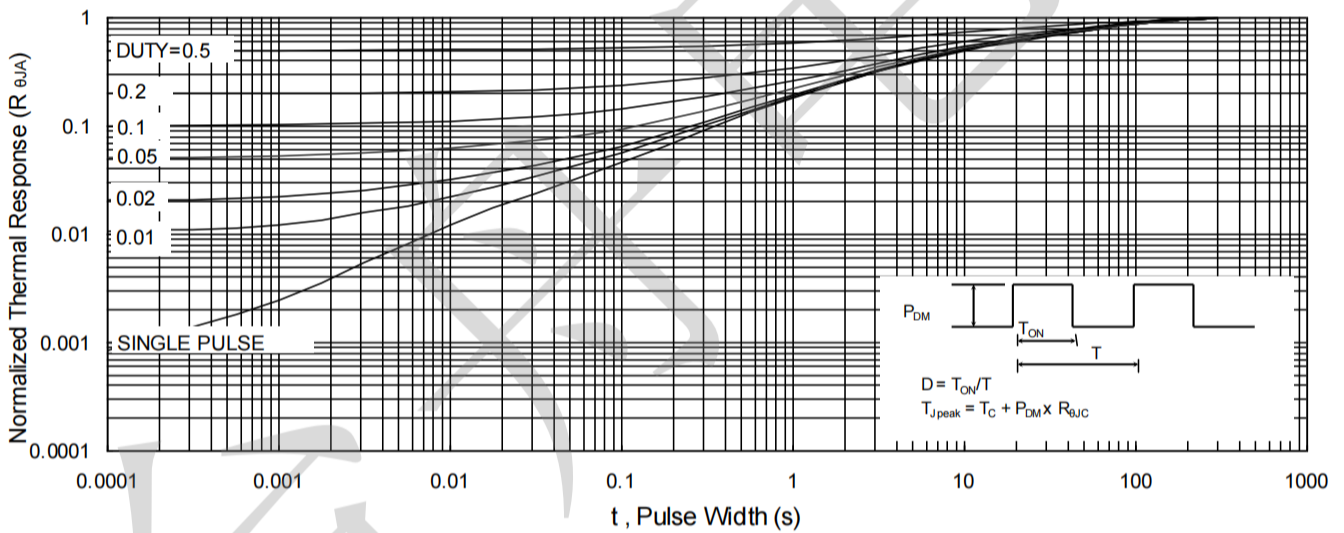
Fig.6 Normalized  $R_{DS(on)}$  vs.  $T_J$



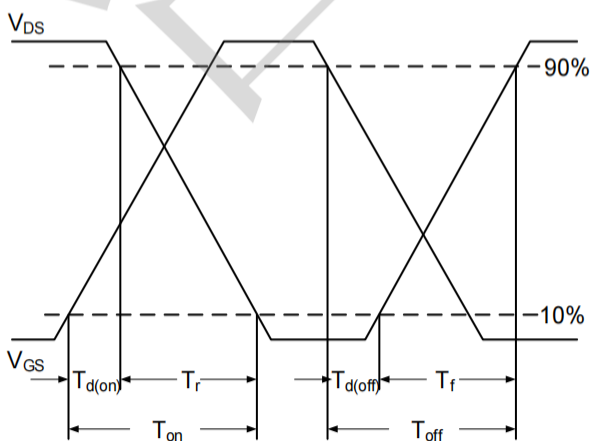
**Fig.7 Capacitance**



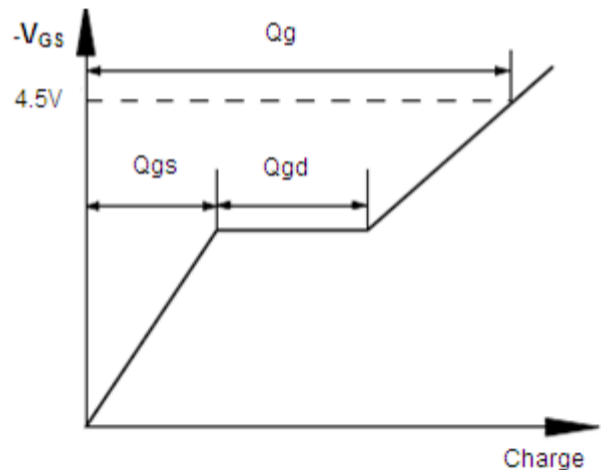
**Fig.8 Safe Operating Area**



**Fig.9 Normalized Maximum Transient Thermal Impedance**



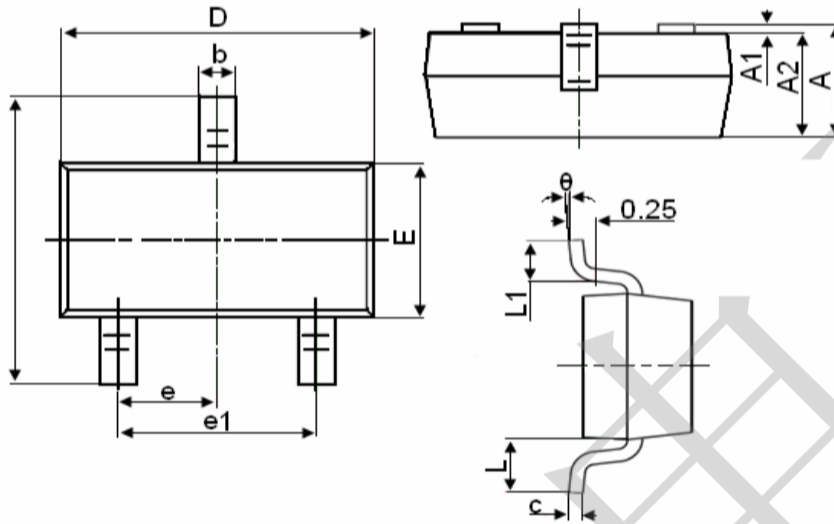
**Fig.10 Switching Time Waveform**



**Fig.11 Gate Charge Waveform**



**SOT-23 Package Information**



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
$\theta$	0°	8°