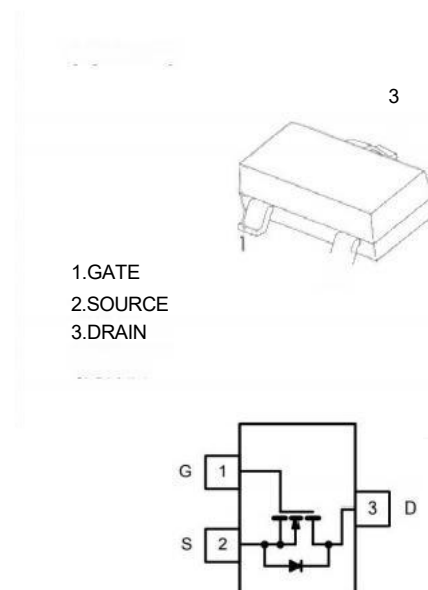


**SI2302A****N-Channel Enhancement MOSFET****SOT-23****Features**

- $V_{DS}=20V$
- $R_{DS(on)}=45m\Omega @ V_{GS}=4.5V, I_D=3.6A$
- $R_{DS(on)}=60m\Omega @ V_{GS}=2.5V, I_b=3.1A$

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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 8	
Continuous Drain Current *1	$T_a=25^\circ C$	I_D	3.6	A
	$T_a=70^\circ C$		3.1	
Pulsed Drain Current		I_{DM}	10	
Power Dissipati	$T_a=25^\circ C$	PD	1.25	W
	$T_a=70^\circ C$		0.8	
Thermal Resistance. Junction-to-Ambient *1		R_{thJA}	100	$^\circ C/W$
	*2		166	
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

Notes:

*1.Surface Mounted on FR4 Board, $t \leq 5$ sec.

*2.Surface Mounted on FR4 Board.

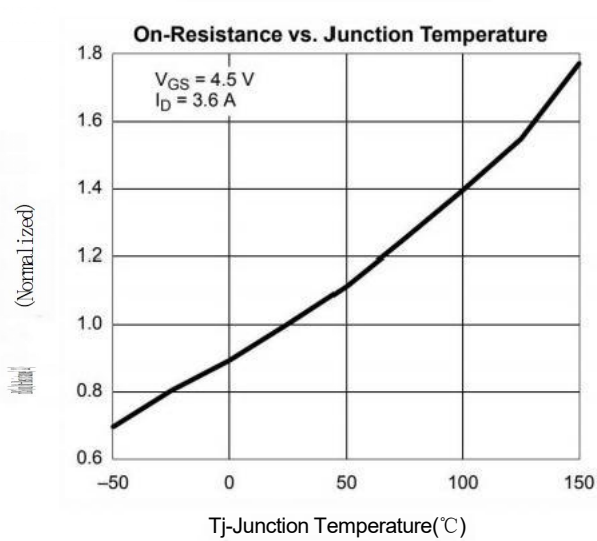
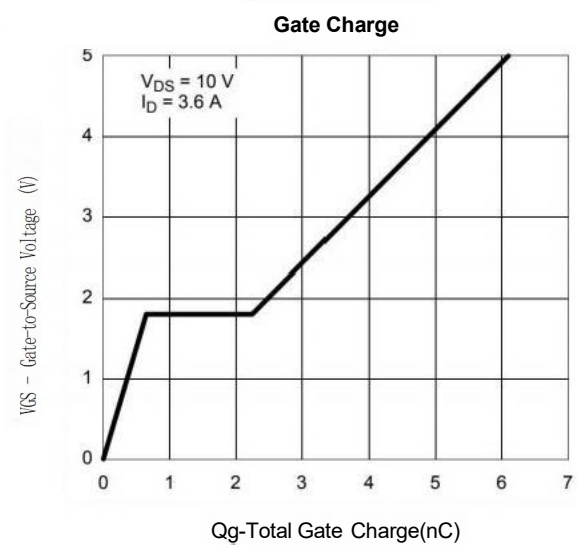
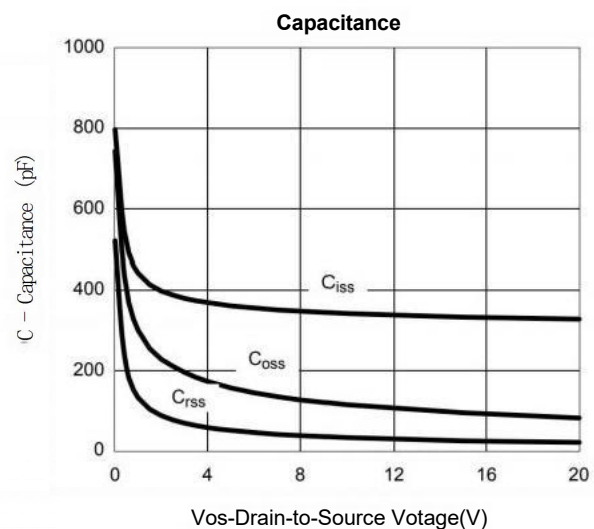
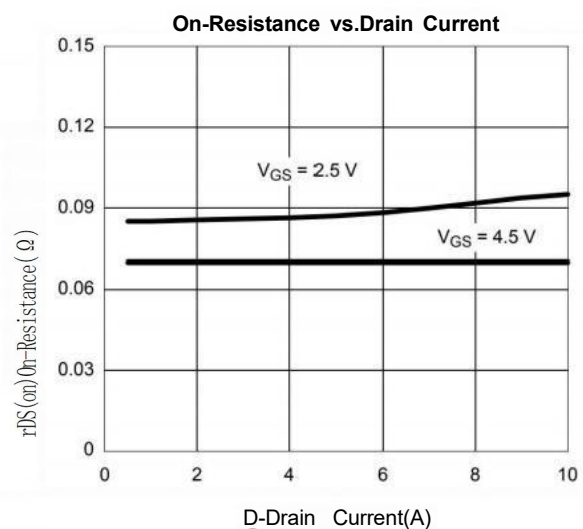
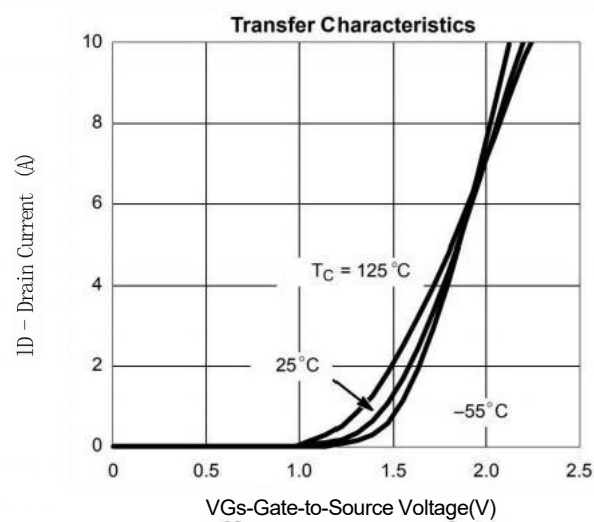
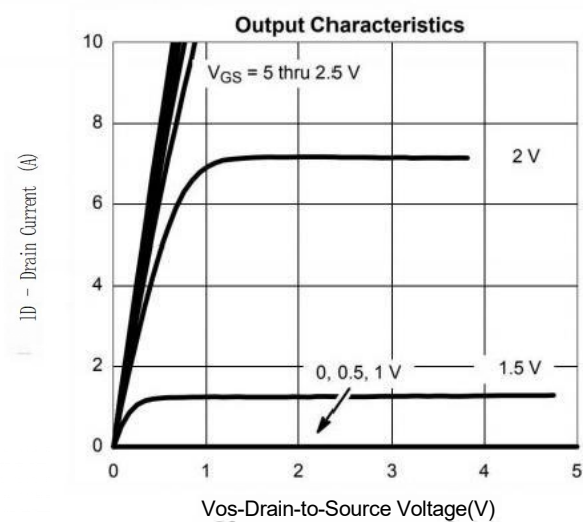
Electrical Characteristics Ta=25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	VDss	ID=250 μ A, VGs=0V	20			V
Zero Gate Voltage Drain Current	IDss	Vbs=20V, VGs=0V			1	μ A
		Vbs=20V, VGs=0V, TJ=55℃			10	
Gate-Body Leakage Current	IGss	VDs=0V, VGs=±8V			±100	nA
Gate Threshold Voltage	VGS(th)	VDs=VGs, ID=250 μ A	0.62	0.95	1.9	V
Static Drain-Source On-Resistance	RDs(on)	VGs=4.5V, ID=3.6A			45	mΩ
		VGs=2.5V, ID=3.1A			60	
Forward Transconductance*	gfs	VDs=5V, ID=3.6A		8		S
Input Capacitance	Ciss	VGs=0V, Vbs=10V, f=1MHz		300		pF
Output Capacitance	Coss			120		
Reverse Transfer Capacitance	Crss			80		
Total Gate Charge	Qg	VDs=10V, VGs=45V, Ib=3.6A		4	10	nC
Gate-Source Charge	Qgs			0.65		
Gate-Drain Charge	Qgd			1.5		
Turn-On DelayTime	td(on)	VGs=4.5V, VDs=10V, RL=5.59, RGEN=62 ID=3.6A		7	15	ns
Turn-On Rise Time	tr			55	80	
Turn-Off DelayTime	ta(off)			16	60	
Turn-Off Fall Time	tf			10	25	
Continuous Source Current(Diode Conduction)	Is			1.6		A
Diode Forward Voltage	VSD	Is=1.6A , VGs=0V		0.76	1.2	V

*Pulse test:PW≤300us duty cycle≤2%

Typical Characteristics

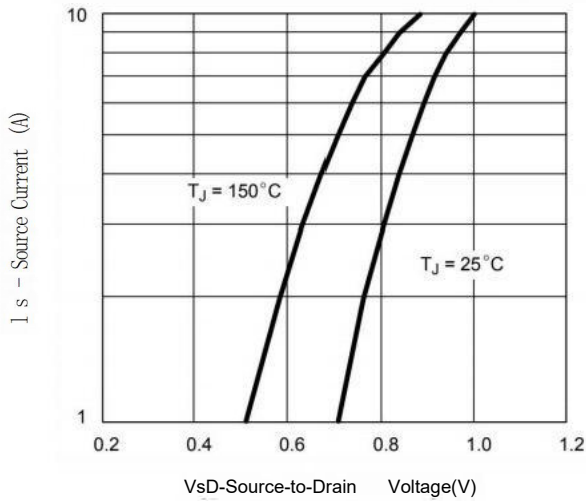
SI2302A



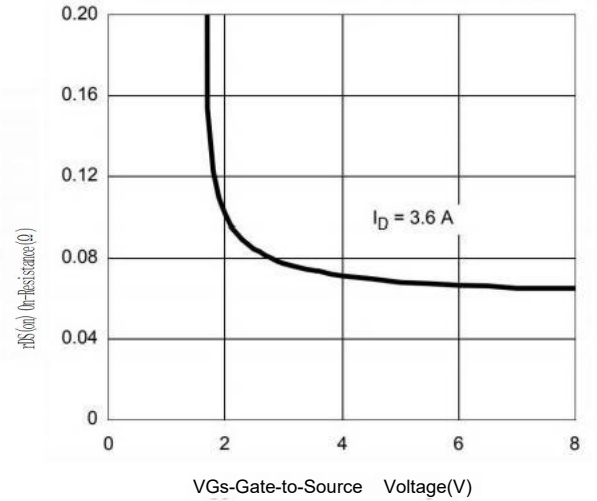
Typical Characteristics

SI2302A

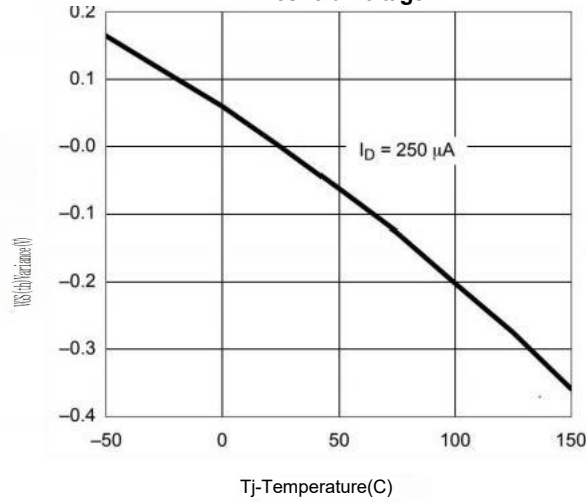
Source-Drain Diode Forward Voltage



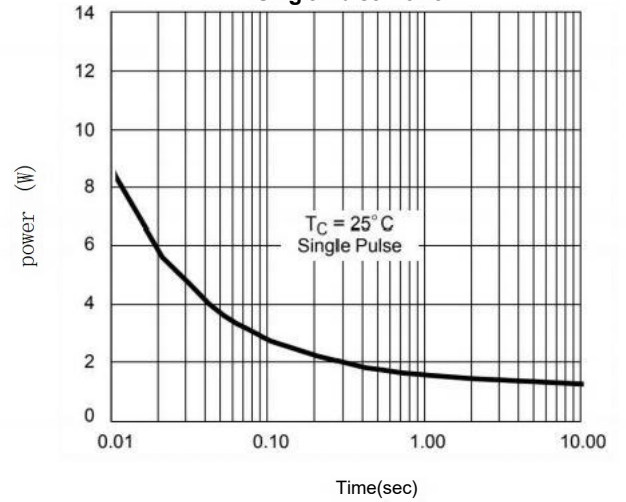
On-Resistance vs. Gate-to-Source Voltage



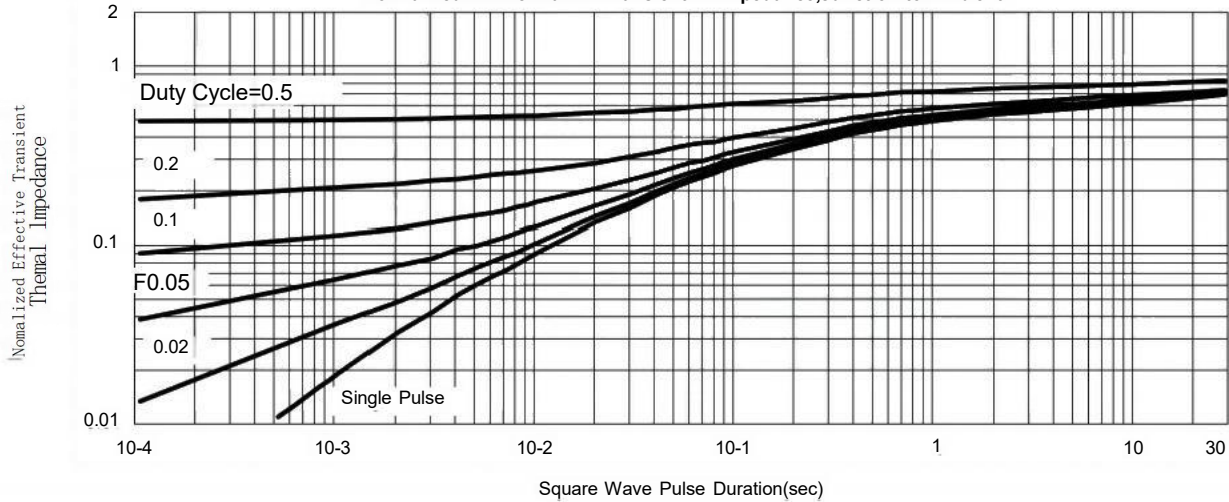
Threshold Voltage



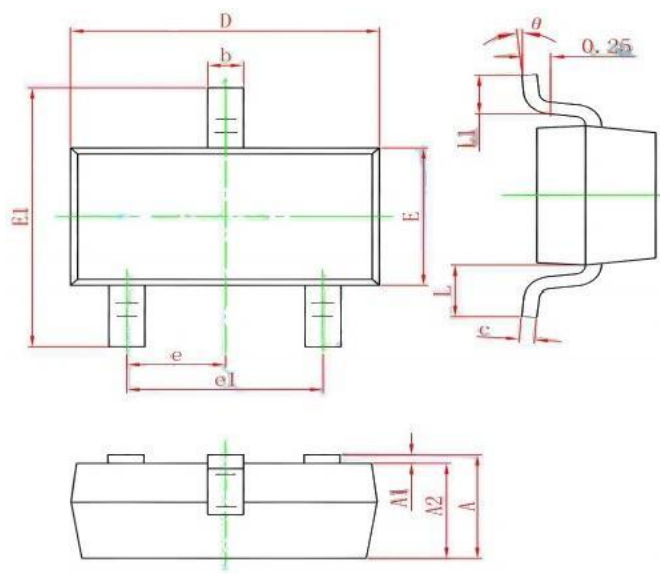
Single Pulse Power



Normalized Thermal Transient Impedance, Junction-to-Ambient



SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
C	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°