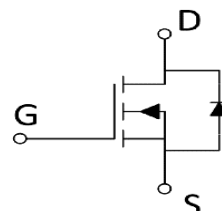
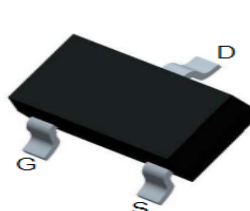


Features

- V_{DS}=40V, I_D=5A
- R_{DS(ON)}=28mΩ (TYP.) V_{GS}=10V
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance
- High Current Capability

SOT23



Applications

- Load Switch
- Power management in portable/desktop PCs
- DC/DC conversion

Ordering Information

Device	package	Device Marking	Package Qty.
SI2318DS	SOT-23		3000/PCS

Absolute Maximum Ratings (T_C=25°C, unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V _{GS} =0V)	V _{DS}	40	V
Gate-Source Voltage (V _{GS} =0V, static)	V _{GS}	±20	V
Continuous Drain Current (T _C =25°C)	I _D	5	A
Continuous Drain Current (T _C =100°C)		3.2	A
Pulsed Drain Current	I _{DM}	15	A
Maximum Power Dissipation (T _C =25°C)	P _D	1.5	W
Maximum Power Dissipation (T _C =100°C)		0.9	W
Operating, Storage Temperature Range	T _J , T _{STG}	-55~150	°C

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Case	R _{θJC}	-	60	-	°C/W
Thermal Resistance, Junction-to-Ambient	R _{θJA}	-	125	-	°C/W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	40	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V	-	-	1	μA
Gate -Source Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	0.5	1.8	1.1	V
Drain-Source On-stage Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =5.8A	-	28	36	mΩ
		V _{GS} =4.5V, I _D =5A	-	40	55	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1MHz$	-	240	-	pF
Output capacitance	C_{oss}		-	35	-	
Reverse transfer capacitance	C_{rss}		-	30	-	
Gate Resistance	R_g	$f=1MHz$	-	1.4	-	Ω
Total Gate Charge	Q_g	$V_{DS}=15V$ $V_{GS}=4.5V$ $I_D=5.8A$	-	3.1	-	nC
Gate Source Charge	Q_{gs}		-	0.4	-	
Gate Drain Charge	Q_{gd}		-	1.3	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=2.7\Omega$ $R_G=3\Omega$	-	4.4	-	ns
Rise time	t_r		-	2.6	-	
Turn-off delay Time	$t_{d(off)}$		-	25.5	-	
Fall time	t_f		-	4.1	-	
Body Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=1A$	-	0.85	1.2	V
Reverse Recovery Time	t_{rr}	$V_{GS}=0V, I_{SD}=5A$ $d_i/d_t=100A/\mu s$	-	16	-	ns
Reverse Recovery Charge	Q_{rr}		-	9	-	nC

Electrical Characteristics Diagrames

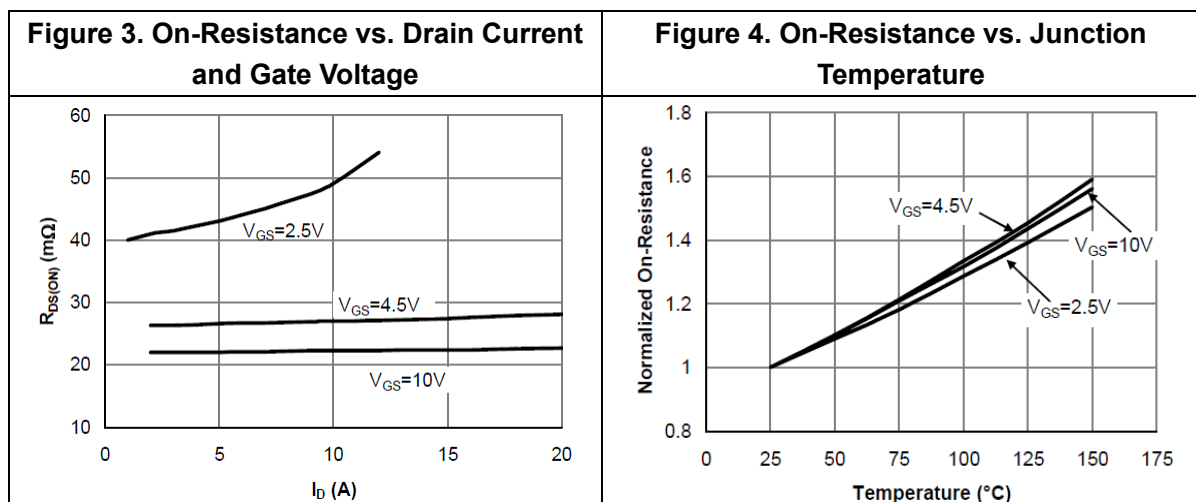
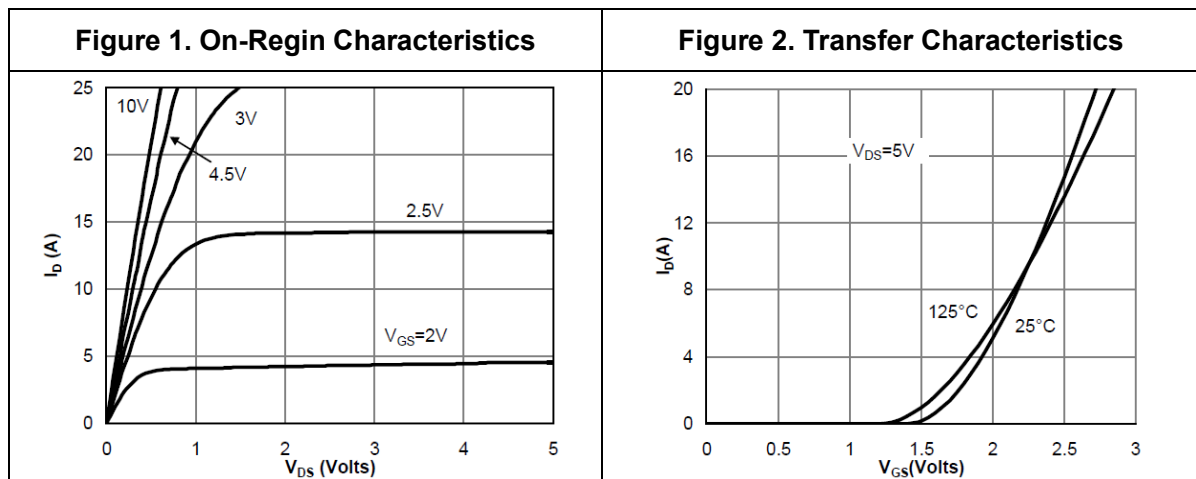
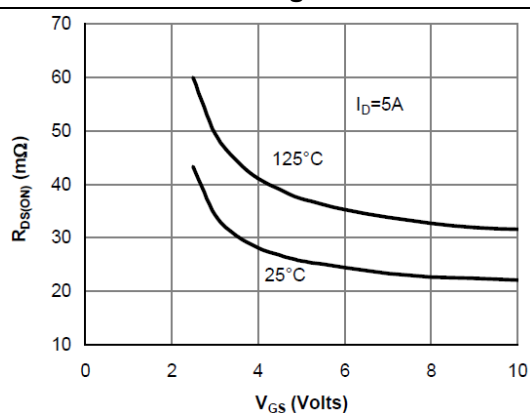
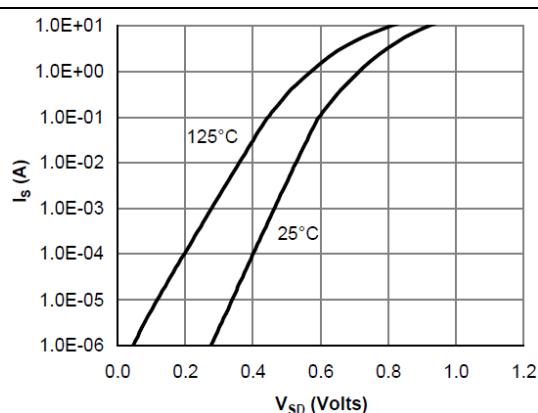
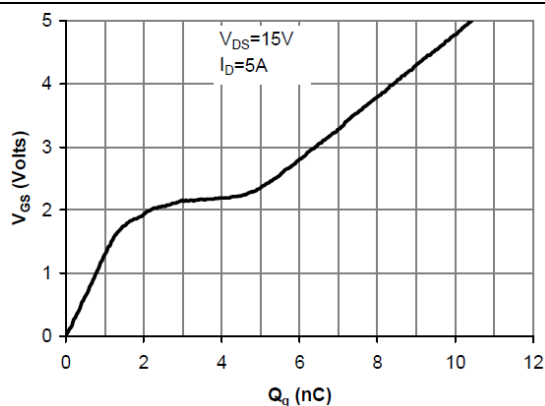
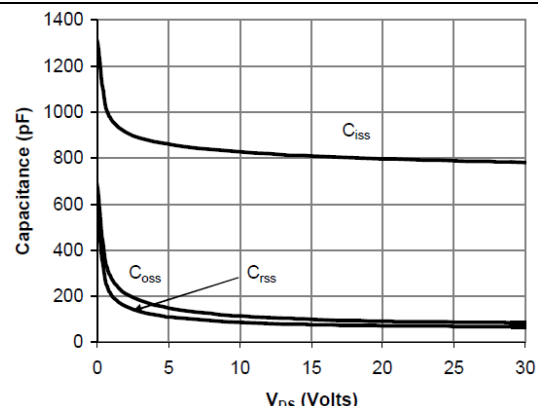
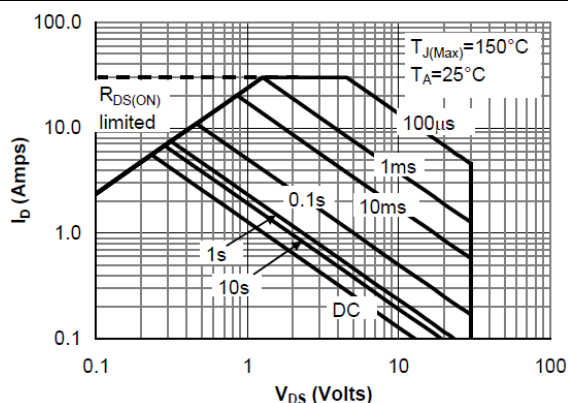
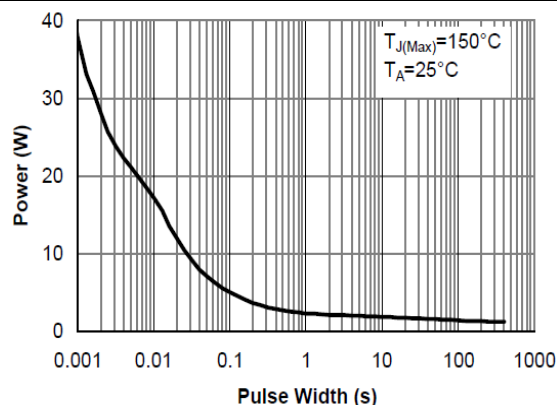


Figure 5. On-Resistance vs. Gate-Source Voltage

Figure 6. Body-Diode Characteristics

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


< Copyright >

All the Patent, Copyright and IP contained in this document belong to HAMOS, shall not be reproduced, copied, or used in other ways without permission.