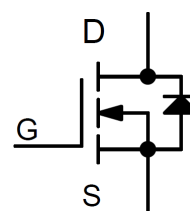
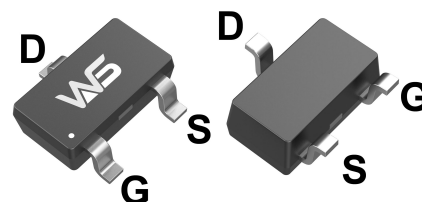


Features

- 200V/1.2A,
 $R_{DS(ON)} = 680m\Omega(max.) @ V_{GS}=10V$
- ESD Protection
- 100% UIS + R_g Tested
- Reliable and Rugged
- Lead Free and Green Devices Available
(RoHS Compliant)

Pin Configuration



SOT-23-3

Applications

- DC-DC converter for Networking.
- Load switch.

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Rating	Unit
Common Ratings			
V_{DSS}	Drain-Source Voltage	200	V
V_{GSS}	Gate-Source Voltage	± 25	
T_J	Maximum Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	
I_S	Diode Continuous Forward Current	$T_A=25^\circ\text{C}$ 1.2	A
I_D	Continuous Drain Current	$T_A=25^\circ\text{C}$ 1.2	A
		$T_A=70^\circ\text{C}$ 0.96	
I_{DM}^a	Pulsed Drain Current	$T_A=25^\circ\text{C}$ 4.8	A
P_D	Maximum Power Dissipation	$T_A=25^\circ\text{C}$ 2.5	W
		$T_A=70^\circ\text{C}$ 1.6	
$R_{\theta JA}^c$	Thermal Resistance-Junction to Ambient	$t \leq 10s$ 50	$^\circ\text{C/W}$
		Steady State 90	$^\circ\text{C/W}$
I_{AS}^b	Avalanche Current, Single pulse	$L=0.5mH$ 1	A
E_{AS}^b	Avalanche Energy, Single pulse	$L=0.5mH$ 0.25	mJ

Note a : Pulse width limited by max. junction temperature.

Note b : UIS tested and pulse width limited by maximum junction temperature 150°C (initial temperature $T_J=25^\circ\text{C}$).

Note c : Surface mounted on $1in^2$ pad area.

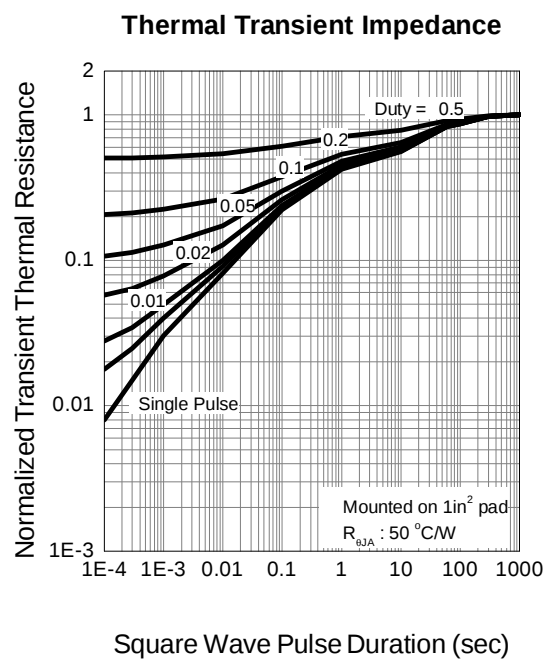
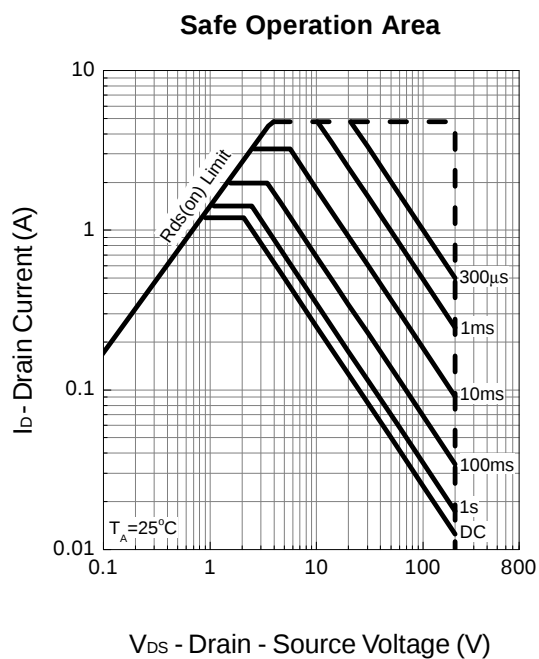
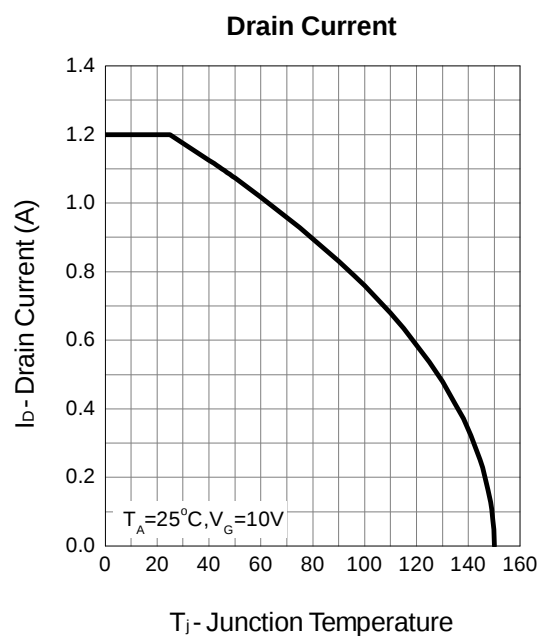
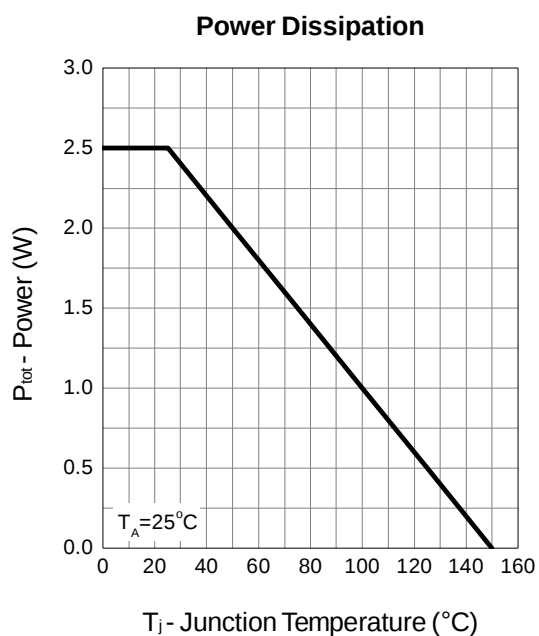
Electrical Characteristics (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250μA	200	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =160V, V _{GS} =0V T _J =85°C	-	-	1 30	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	3	4	5	V
I _{GSS}	Gate Leakage Current	V _{GS} =±25V, V _{DS} =0V	-	-	±10	μA
R _{DS(ON)} ^d	Drain-Source On-state Resistance	V _{GS} =10V, I _{DS} =1A	-	570	680	mΩ
Diode Characteristics						
V _{SD} ^d	Diode Forward Voltage	I _{SD} =1A, V _{GS} =0V	-	0.8	1.3	V
t _{rr}	Reverse Recovery Time	I _{SD} =1A, dI _{SD} /dt=100A/μs	-	48	-	ns
Q _{rr}	Reverse Recovery Charge		-	70	-	nC
Dynamic Characteristics ^e						
R _G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, f=1MHz	-	4	-	Ω
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =30V, Frequency=1.0MHz	-	280	-	pF
C _{oss}	Output Capacitance		-	25	-	
C _{rss}	Reverse Transfer Capacitance		-	8.5	-	
t _{d(ON)}	Turn-on Delay Time	V _{DD} =30V, R _L =30Ω, I _{DS} =1A, V _{GEN} =10V, R _G =6Ω	-	10	18	ns
t _r	Turn-on Rise Time		-	8	15	
t _{d(OFF)}	Turn-off Delay Time		-	9	17	
t _f	Turn-off Fall Time		-	2	4	
Gate Charge Characteristics ^e						
Q _g	Total Gate Charge	V _{DS} =100V, V _{GS} =10V, I _{DS} =1A	-	6	9	nC
Q _{gs}	Gate-Source Charge		-	2	-	
Q _{gd}	Gate-Drain Charge		-	1.5	-	

Note d : Pulse test ; pulse width≤300μs, duty cycle≤2%.

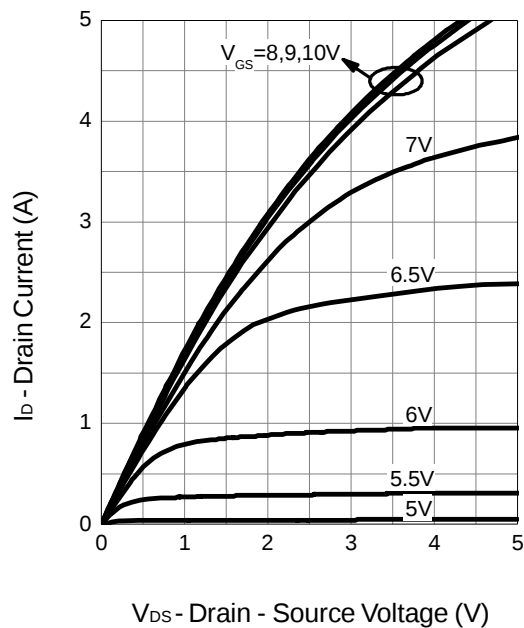
Note e : Guaranteed by design, not subject to production testing.

Typical Operating Characteristics

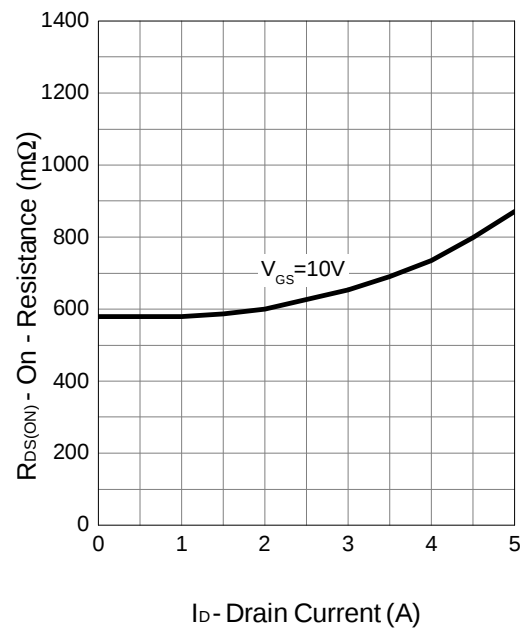


Typical Operating Characteristics (Cont.)

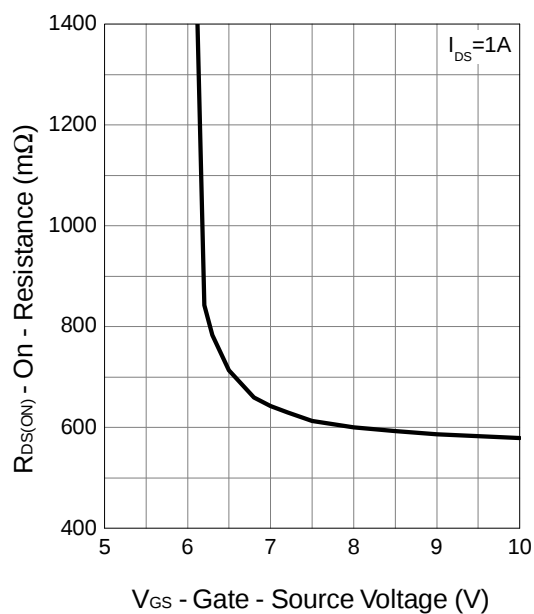
Output Characteristics



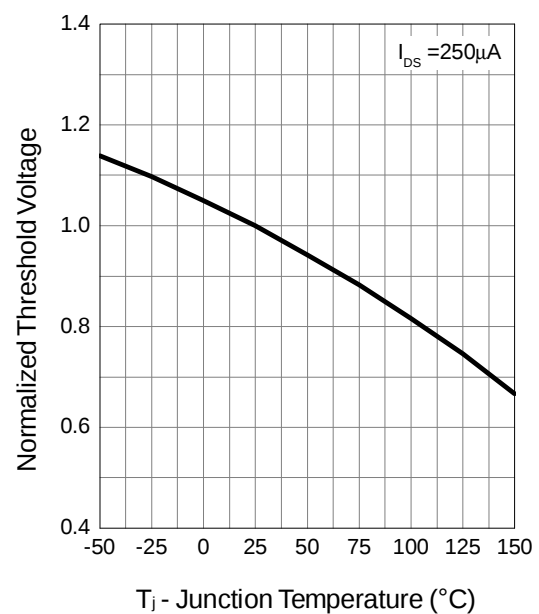
Drain-Source On Resistance



Gate-Source On Resistance

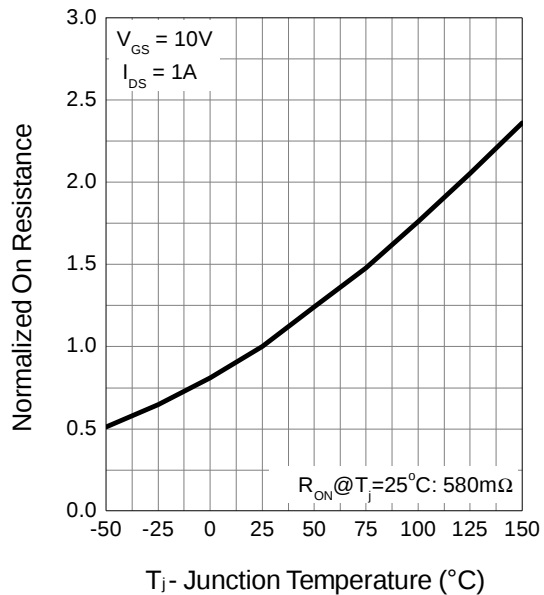


Gate Threshold Voltage

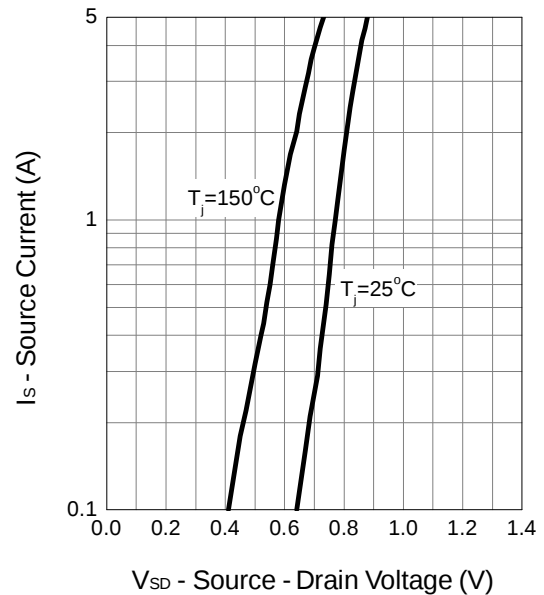


Typical Operating Characteristics (Cont.)

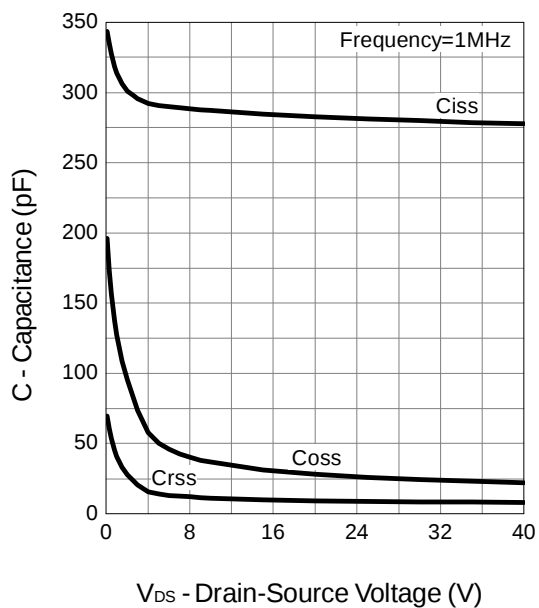
Drain-Source On Resistance



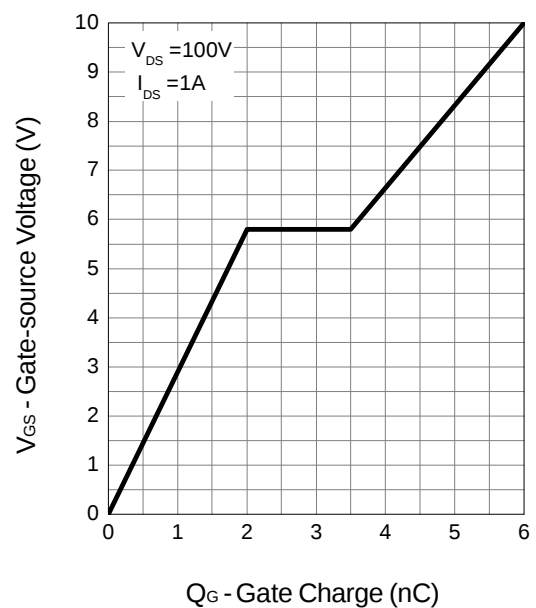
Source-Drain Diode Forward



Capacitance



Gate Charge



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