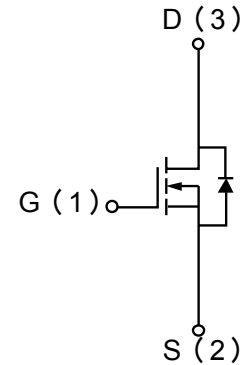


**Description**

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V <sub>DS</sub> (V)	R <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
20	0.043@ V <sub>GS</sub> =4.5V	3


**Electrical characteristics per line@25°C ( unless otherwise specified)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
<b>OFF/ON CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	I <sub>D</sub> =250μA, V <sub>GS</sub> =0V	20		-	V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =20V, V <sub>GS</sub> =0V	-	-	1	μA
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±8V	-	-	±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.6	-	1.2	V
Static Drain-Source On-Resistance <sup>2</sup>	R <sub>DS(ON)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =2.8A	-	0.043	0.060	Ω
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =2.0A	-	0.052	0.115	Ω
<b>DYNAMIC PARAMETERS</b>						
Input Capacitance	C <sub>ISS</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =10V, f=1MHz	-	450		pF
Output Capacitance	C <sub>OSS</sub>		-	70		pF
Reverse Transfer Capacitance	C <sub>RSS</sub>		-	43		pF
<b>SWITCHING PARAMETERS</b>						
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V, R <sub>G</sub> =6Ω, I <sub>D</sub> =1A	-	7	15	ns
Turn-Off Delay Time	t <sub>d(off)</sub>		-	16	60	ns
Turn-On Rise Time	Tr		-	55	80	ns
Turn-On Fall Time	Tf		-	20	25	ns
Total Gate Charge	Qg(10)	V <sub>DS</sub> =10V, V <sub>GS</sub> =4.5V, I <sub>D</sub> =3.6A		5.2	10	nC
Gate-Source Charge	Qgs			0.65		nC
Gate-Drain Charge	Qgd			1.5		nC
Drain-Source Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =1.0A		0.76	1.2	V
Maximum Continuous rain-Source Diode Forward Current	I <sub>S</sub>				1.6	A

Absolute maximum rating@25°C

Parameter		Symbol	Value	Units	
Drain-Source Voltage		$V_{DS}$	20	V	
Gate-Source Voltage		$V_{GS}$	±8	V	
Drain Current	Continuous	$I_D$	3	A	
	Pulsed	$I_D$	9	A	
Total Power Dissipation		$P_D$	1.25	W	
Operating Junction Temperature Range		$T_J$	-55 to 150	°C	
Thermal Characteristics					
Parameter		Symbol	Typ	Max	Units
Maximum Junction-to-Ambient A	t≤10s	$\theta_{JA}$	-	100	°C/W

Typical Characteristics

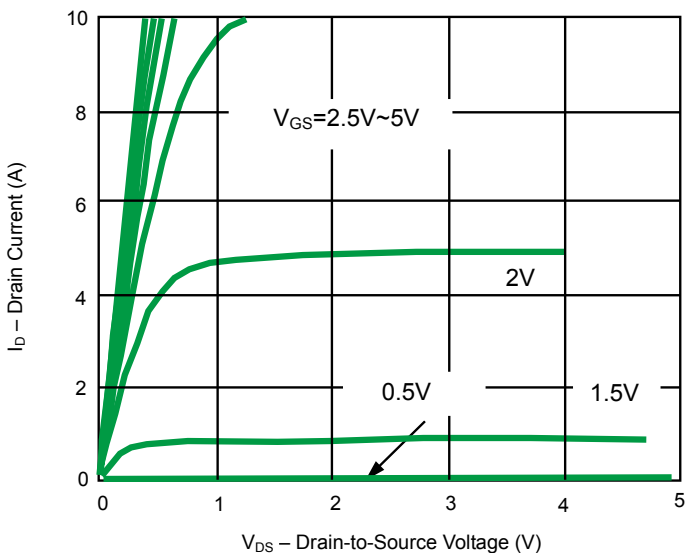


Fig 1. Output Characteristics

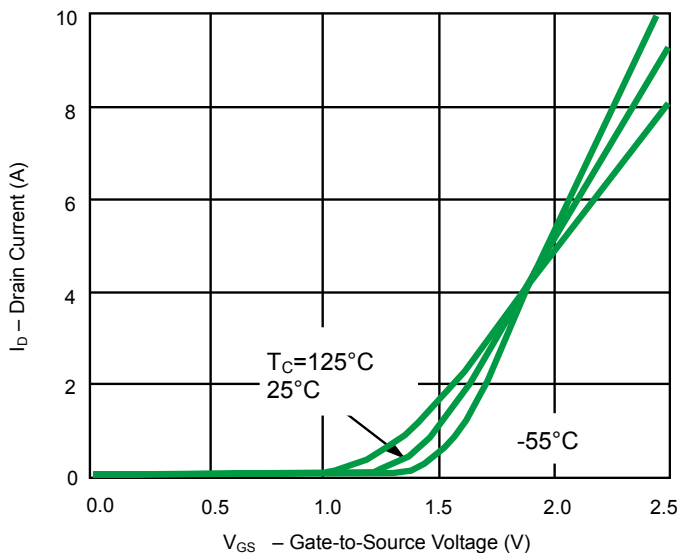


Fig 2. Transfer Characteristics

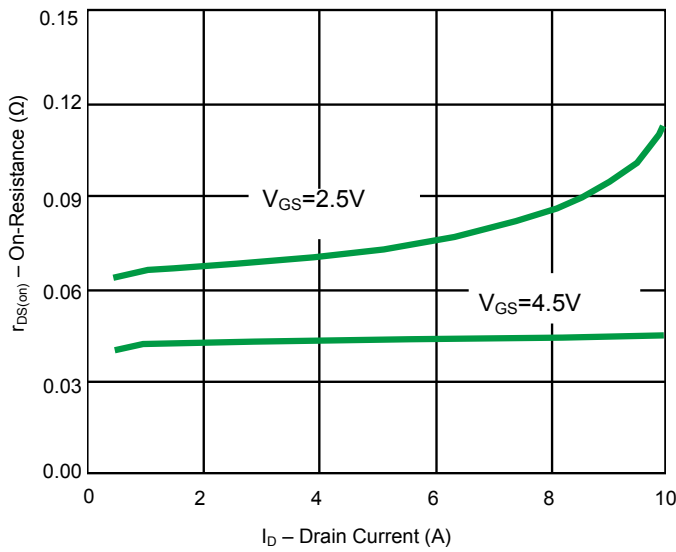


Fig 3. On-Resistance vs. Drain Current

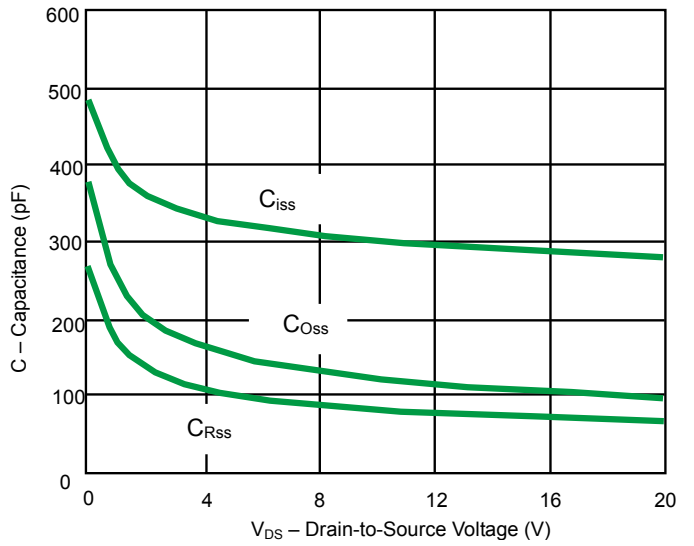


Fig 4. Capacitance Characteristics

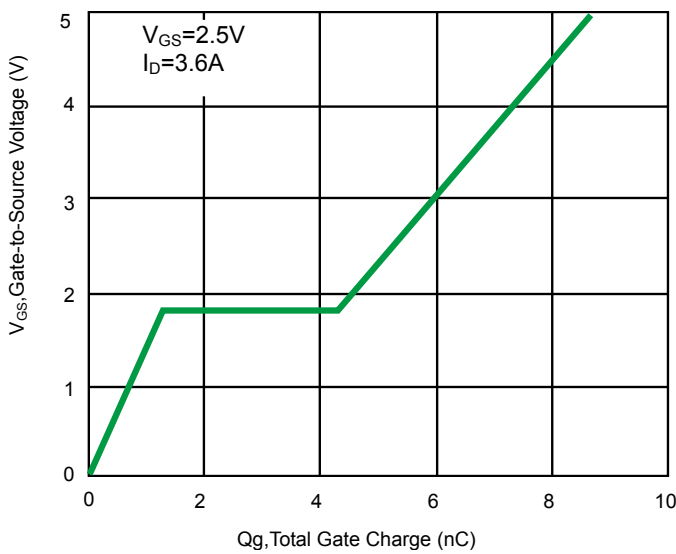


Fig 5. Gate Charge Characteristics

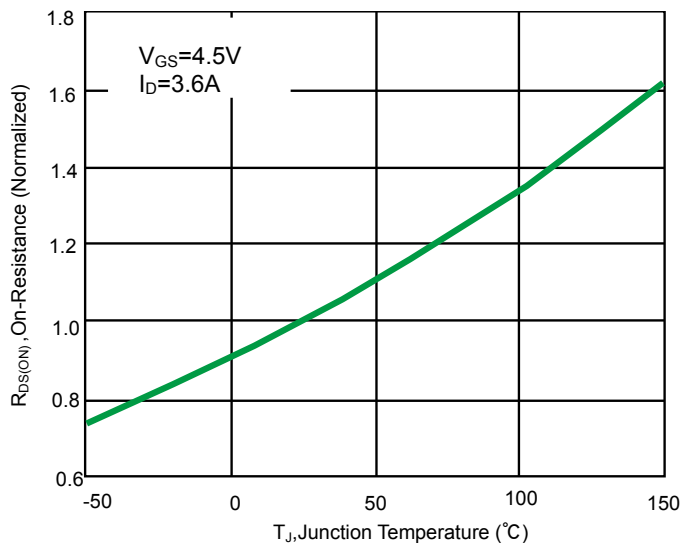


Fig 6. On-Resistance vs. Junction Temperature

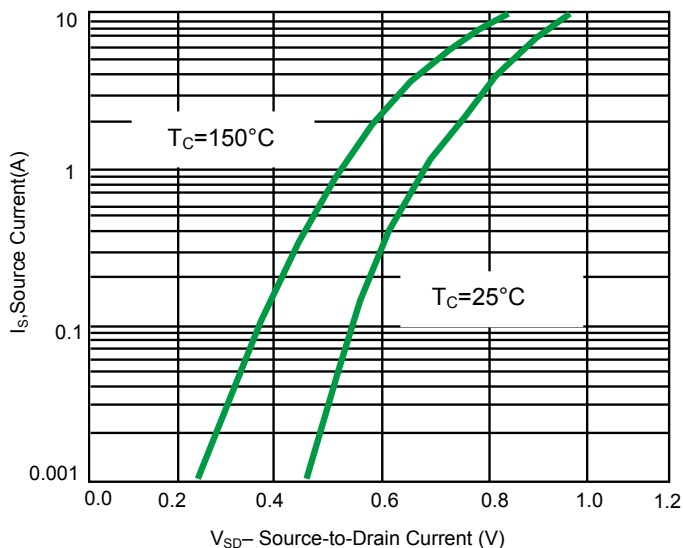


Fig 7. Source-Drain Diode Forward Voltage

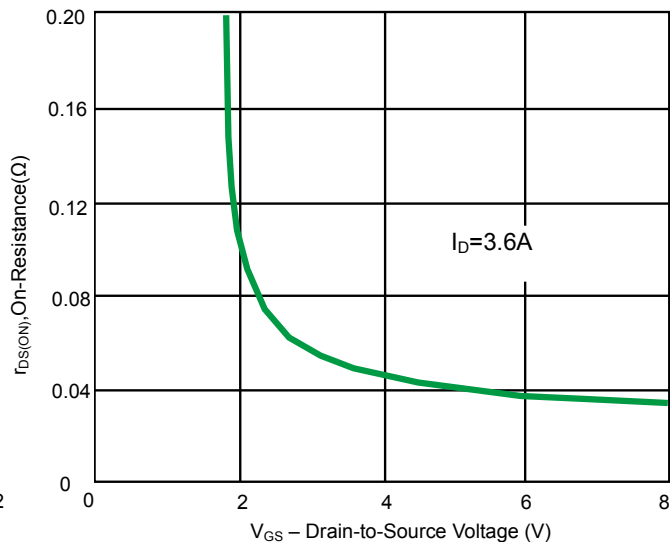


Fig 8. On-Resistance vs. Gate-to-Source Voltage

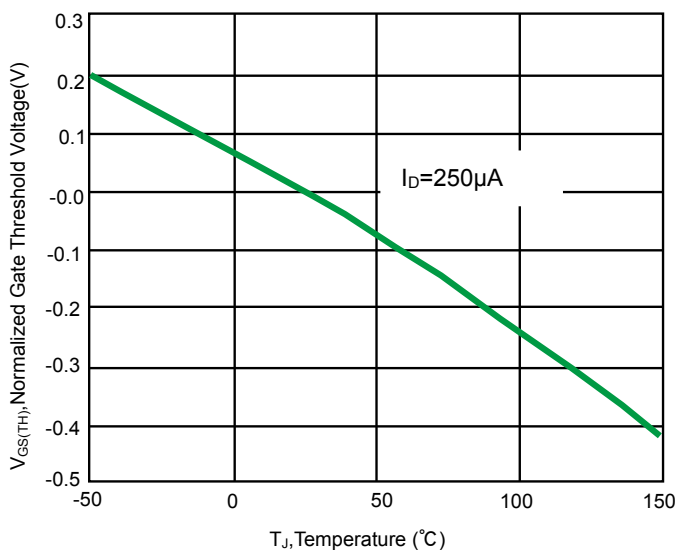


Fig 9. Normalized Gate Threshold Voltage vs. Temperature

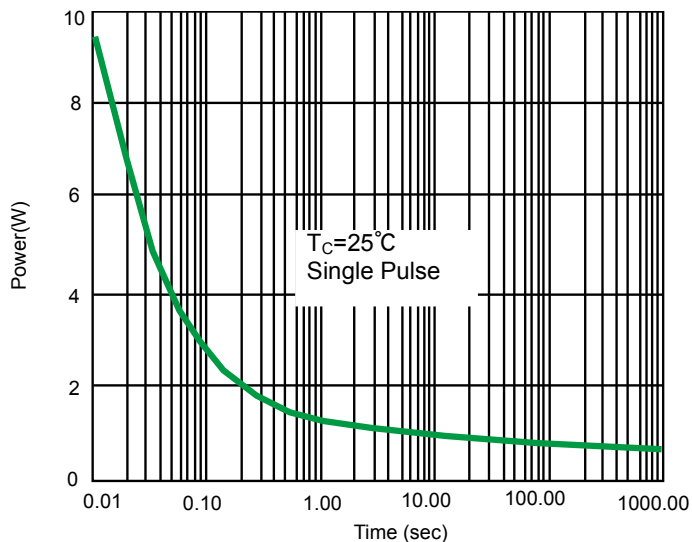
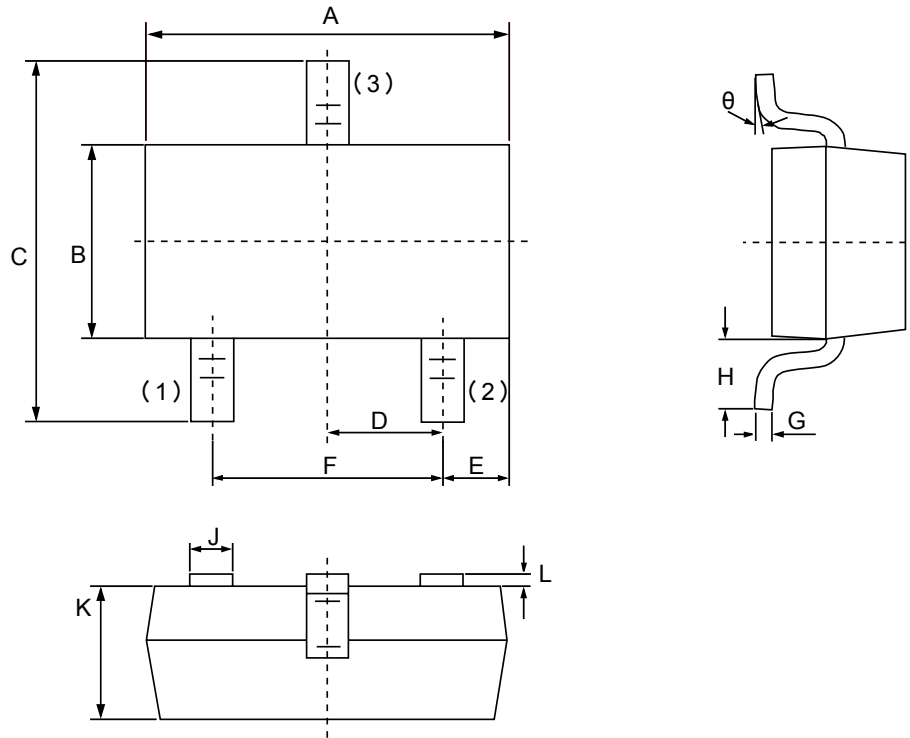



Fig 10. Single Pulse Power

Product dimension(SOT-23)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	2.10	2.50	0.0830	0.0984
D	0.89	1.02	0.0350	0.0401
E	0.45	0.60	0.0177	0.0236
F	1.78	2.04	0.0701	0.0807
G	0.085	0.177	0.0034	0.0070
H	0.45	0.60	0.0180	0.0236
J	0.37	0.50	0.0150	0.0200
K	0.89	1.11	0.0350	0.0440
L	0.013	0.100	0.0005	0.0040
θ	0°	10°	0°	10°


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