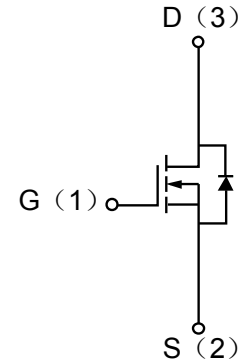


Description

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

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$I_D(A)$
20	0.043@ $V_{GS}=4.5V$	3


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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF/ON CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	20		-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 8V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.6	-	1.2	V
Static Drain-Source On-Resistance ²	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=2.8A$	-	0.043	0.060	Ω
		$V_{GS}=2.5V, I_D=2.0A$	-	0.052	0.115	Ω
		$V_{GS}=1.8V, I_D=2.0A$	-	0.080	0.130	Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{GS}=0V, V_{DS}=10V,$ $f=1MHz$	-	450		pF
Output Capacitance	C_{OSS}		-	70		pF
Reverse Transfer Capacitance	C_{RSS}		-	43		pF
SWITCHING PARAMETERS						
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=10V, V_{GS}=4.5V,$ $R_G=6\Omega,$ $I_D=1A$	-	7	15	ns
Turn-Off Delay Time	$t_{d(off)}$		-	16	60	ns
Turn-On Rise Time	T_r		-	55	80	ns
Turn-On Fall Time	T_f		-	20	25	ns
Total Gate Charge	$Q_g(10)$	$V_{DS}=10V, V_{GS}=4.5V,$ $I_D=3.6A$		5.2	10	nC
Gate-Source Charge	Q_{gs}			0.65		nC
Gate-Drain Charge	Q_{gd}			1.5		nC
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=1.0A$		0.76	1.2	V
Maximum Continuous Drain-Source Diode Forward Current	I_S				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	$t \leq 10s$	θ_{JA}	-	100	°C/W

Typical Characteristics

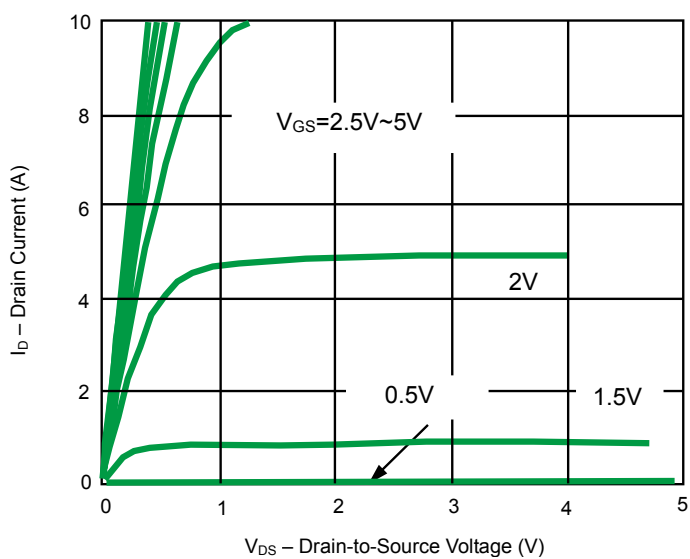


Fig 1. Output Characteristics

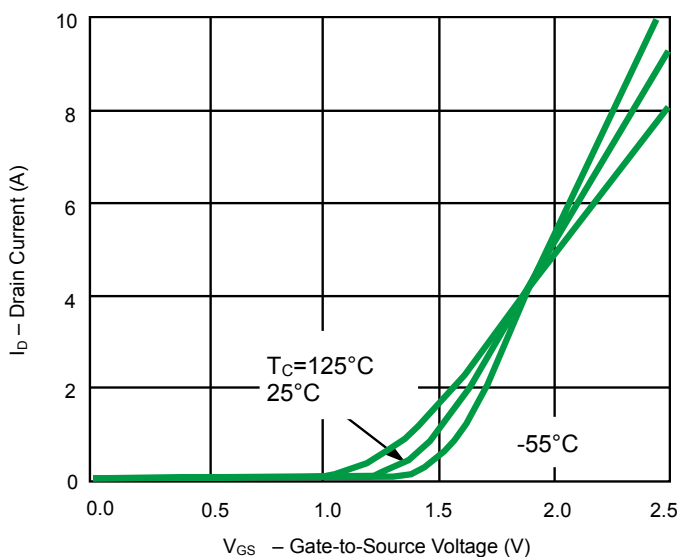


Fig 2. Transfer Characteristics

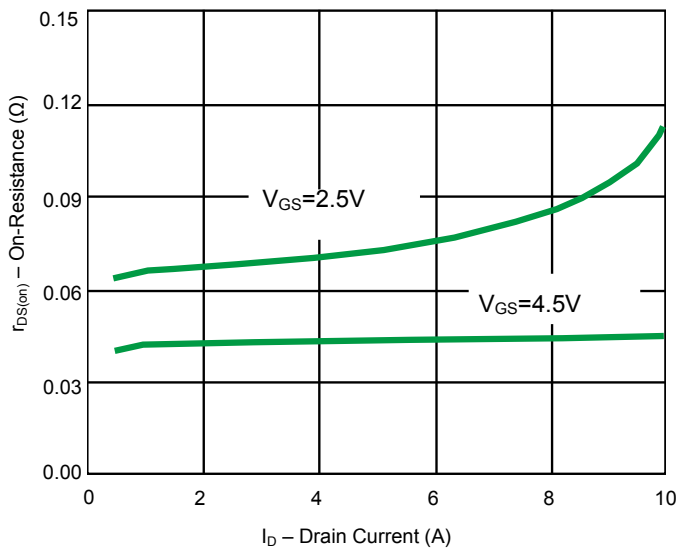


Fig 3. On-Resistance vs. Drain Current

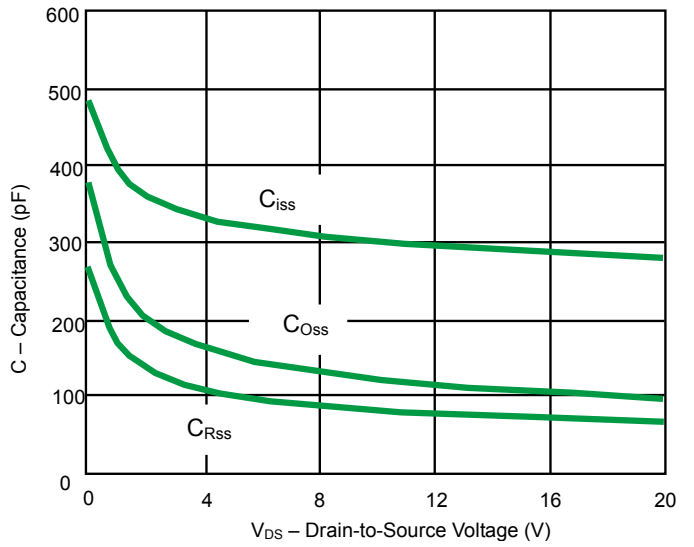


Fig 4. Capacitance Characteristics

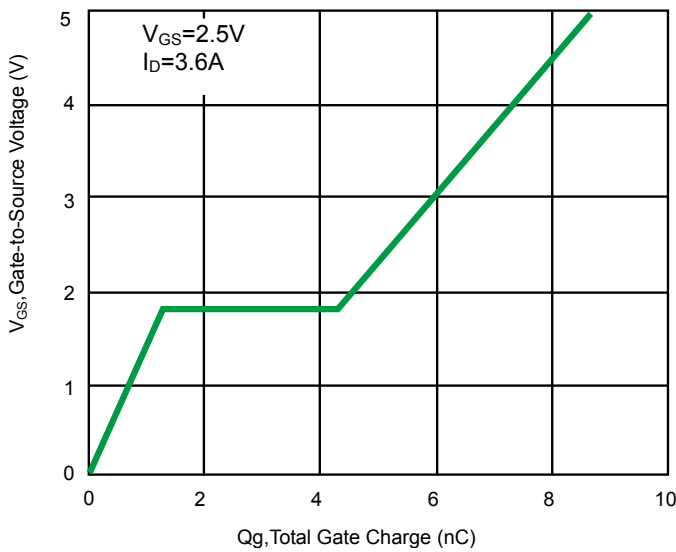


Fig 5. Gate Charge Characteristics

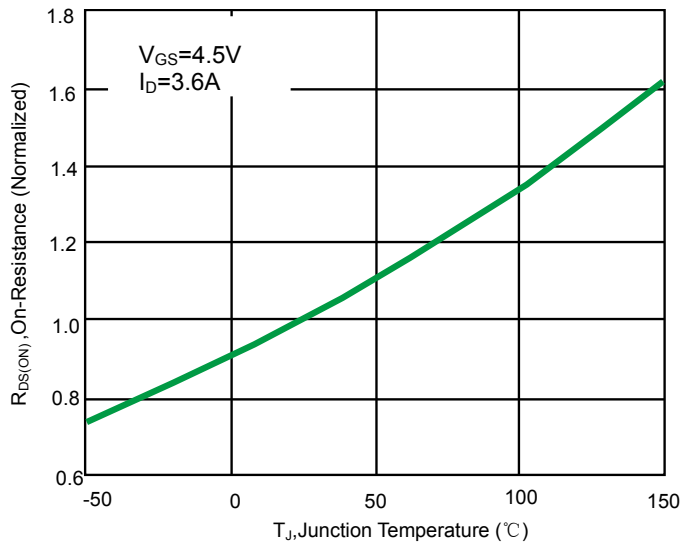


Fig 6. On-Resistance vs. Junction Temperature

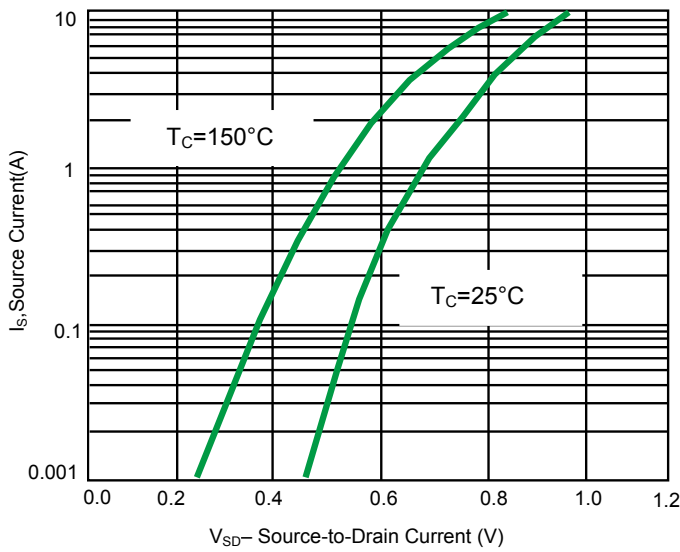


Fig 7. Source-Drain Diode Forward Voltage

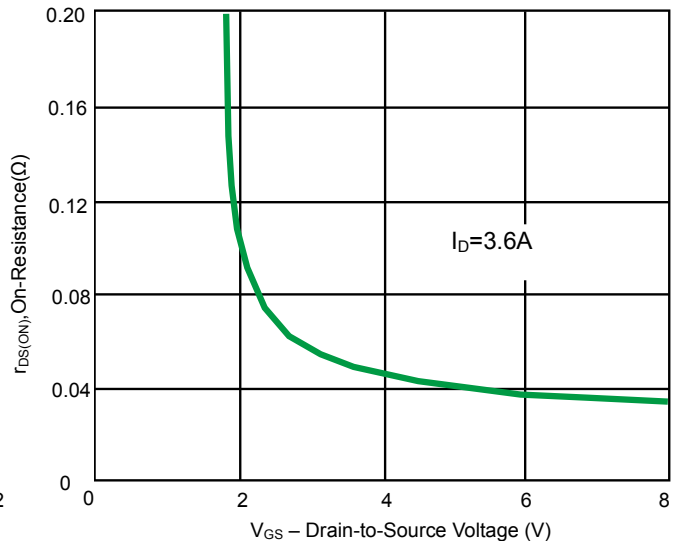


Fig 8. On-Resistance vs. Gate-to-Source Voltage

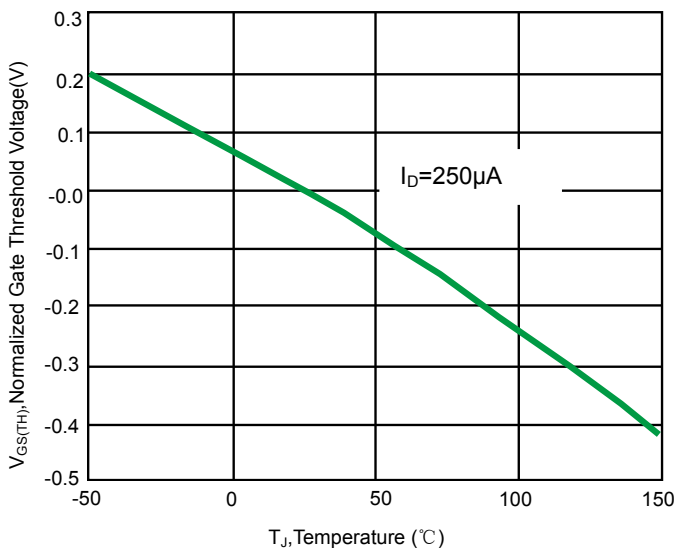


Fig 9. Normalized Gate Threshold Voltage vs. Temperature

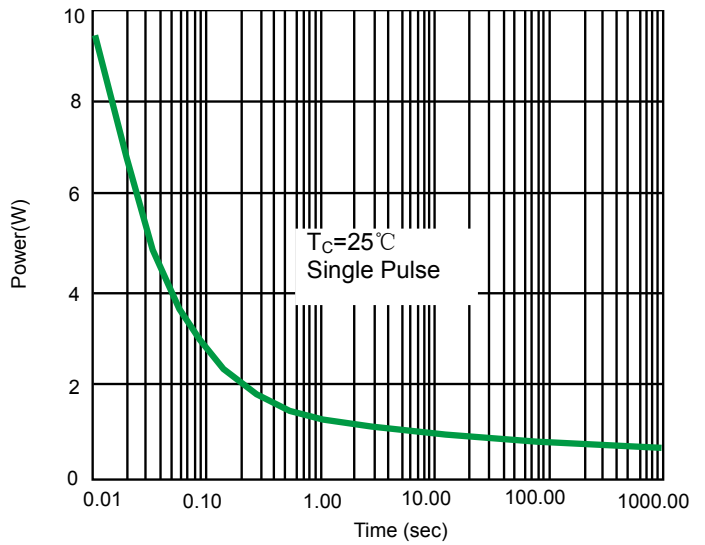
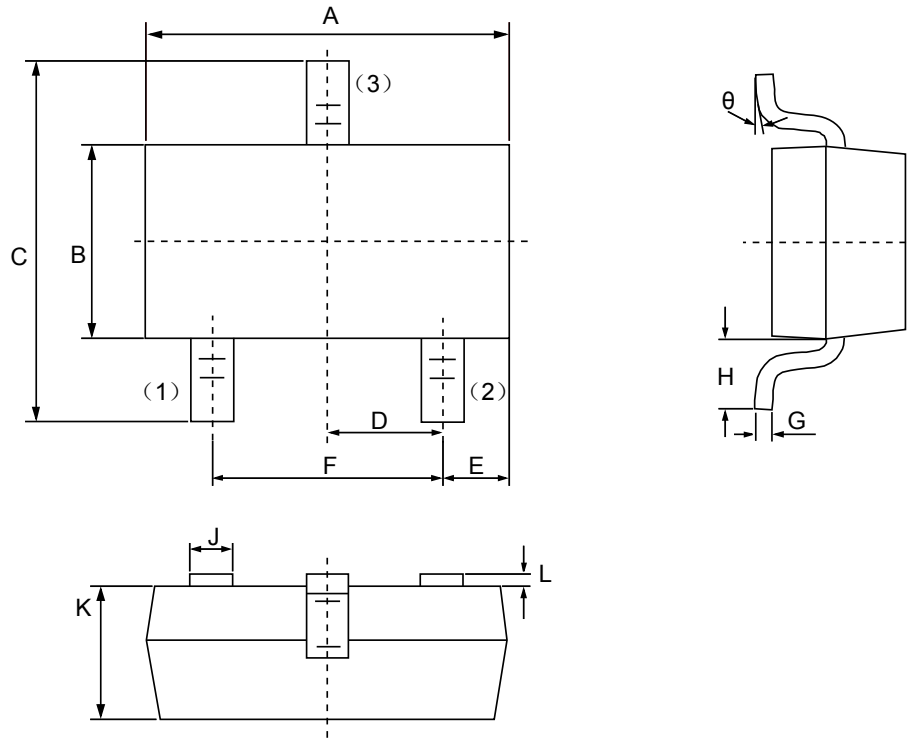



Fig 10. Single Pulse Power

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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