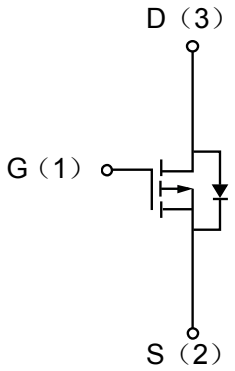
Description

The enhancement mode MOS is extremely high density cell and low on-resistance.

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(mΩ)	I_D(A)
-20	28 @ V_{GS}=-4.5V	-4.5
	38 @ V_{GS}=-2.5V	



Absolute maximum rating@25℃

Rating			Symbol	Value	Units
Drain-Source Voltage			V_{DS}	-20	V
Gate-Source Voltage			V_{GS}	±12	V
Drain Current	Continuous	V_{GS}=-4.5V	I_D*	-4.5	A
	300μs Pulsed		I_{DM}*	-18	A
Diode Continuous Forward Current			I_S*	-1	A
Total Power Dissipation	T_A=25℃		P_D*	0.83	W
	T_A=100℃			0.3	W
Maximum Junction Temperature			T_J	150	℃
Storage Temperature Range			T_{STG}	-55 to 150	℃
Thermal Resistance-Junction to Ambient			$R_{\theta JA}$*	150	℃/W

Note:

*Surface Mounted on 1in^2 pad area, t≤10sec.

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =-250μA,V_{GS}=0V	-20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-16V,V_{GS}=0V	-	-	-1	A
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±12V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.5	-0.7	-1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$ [a]	V_{GS}=-4.5V, I_D =-4.5A	-	28	35	mΩ
		V_{GS}=-2.5V, I_D =-2.5A	-	38	50	
		V_{GS}=-1.8V, I_D =-2.0A		55	75	
Diode Forward Voltage	V_{SD} [a]	V_{GS}=0V, I_{SD} =-1A		-0.7	-1.3	V
Gate Charge Characteristics [b]						
Total Gate Charge	Qg	V_{DS}=-10V, V_{GS}=-4.5V, I_{DS}=-4.5V		14	20	nC
Gate-Source Charge	Qgs			2.1		
Gate-Drain Charge	Qgd			4.7		
Dynamic Characteristics [b]						
Gate Resistance	R_G	V_{GS}=0V, V_{DS}=0V,F=1MHz		7		Ω
Input Capacitance	Ciss	V_{GS}=0V, V_{DS}=-10V, F=1MHz		1520		pF
Output Capacitance	Coss			225		
Reverse Transfer Capacitance	Crss			165		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-10V, V_{GEN}=-4.5V, R_L=10Ω, R_G=6Ω, I_D =-1A	-	6	12	ns
Turn-off Rise Time	t_r			13	24	
Turn-Off Delay Time	$t_{d(off)}$		-	86	156	
Turn-off Fall Time	t_f			42	77	
Reverse Recovery Time	t_{rr}	I_{SD}=-4.5A, dI_{SD}/dt=100A/μs		21		ns
Reverse Recovery Charge	q_{rr}			9		nC

Note:

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

b: Guaranteed by design, not subject to production testing.

Typical Characteristics

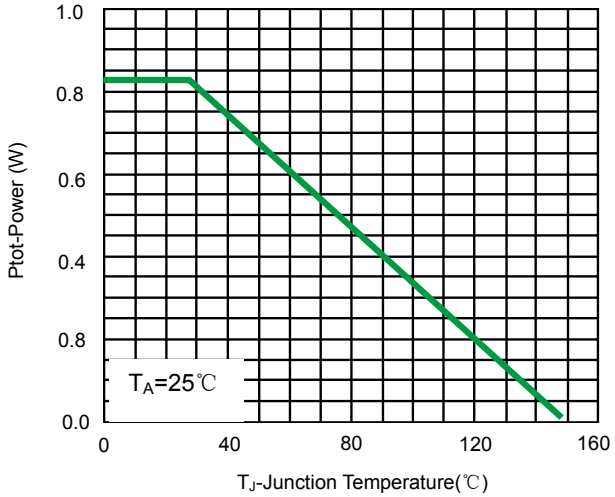


Fig 1. Power Dissipation

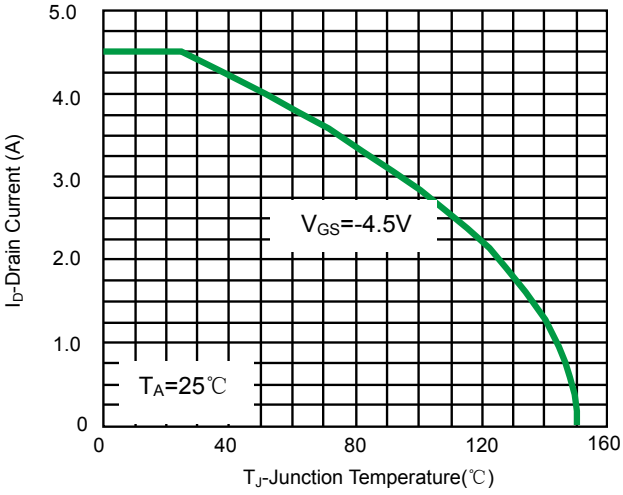


Fig 2. Drain Current

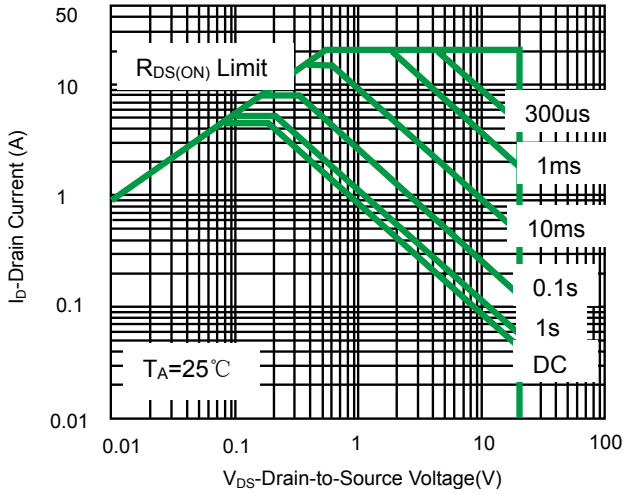


Fig 3. Safe Operation Area

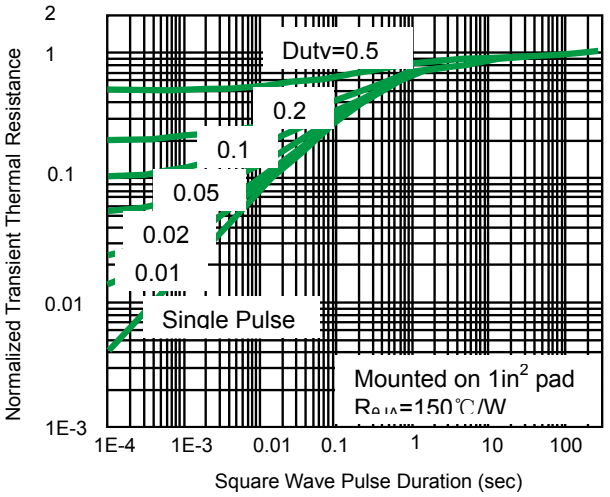


Fig 4. Thermal Transient Impedance

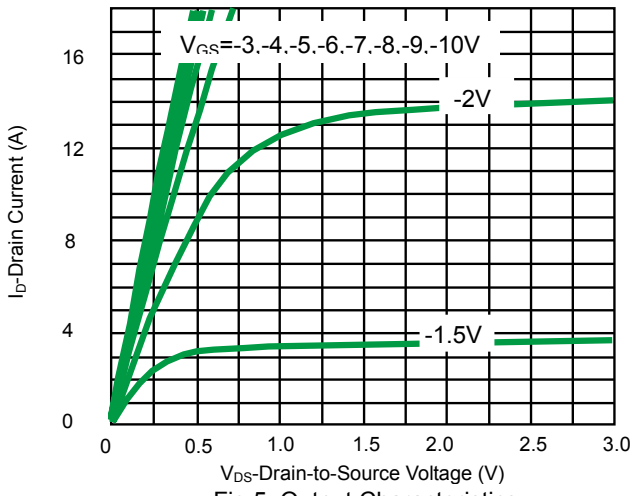


Fig 5. Output Characteristics

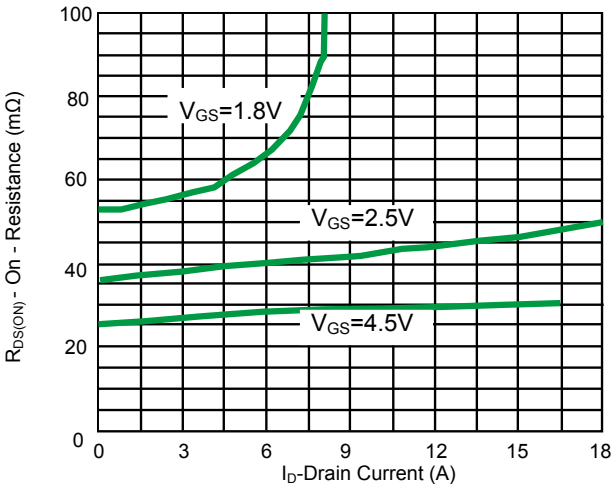


Fig 6. Drain-Source On Resistance

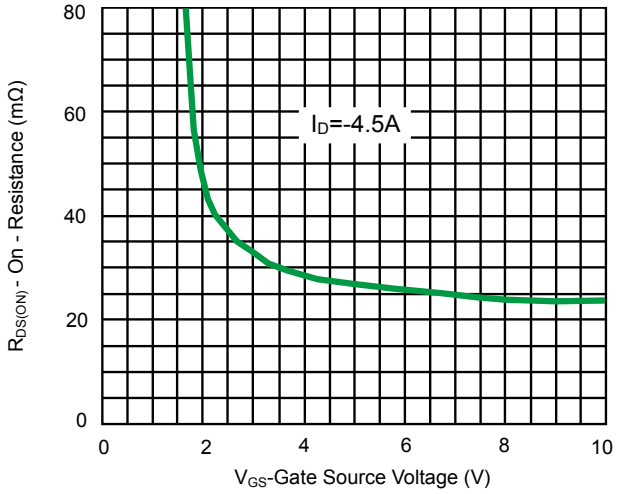


Fig 7. Drain-Source On Resistance

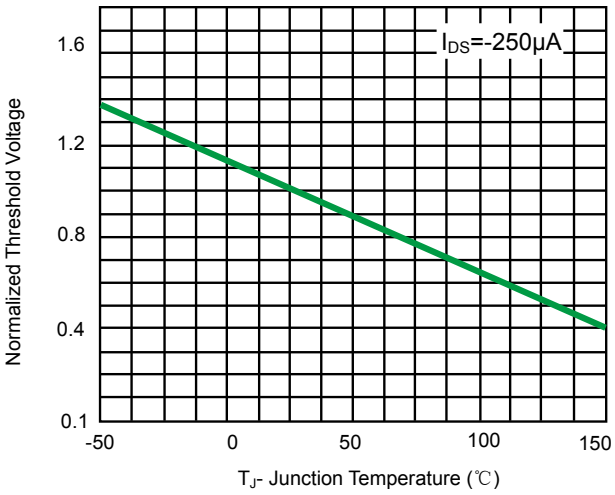


Fig 8. Gate Threshold Voltage

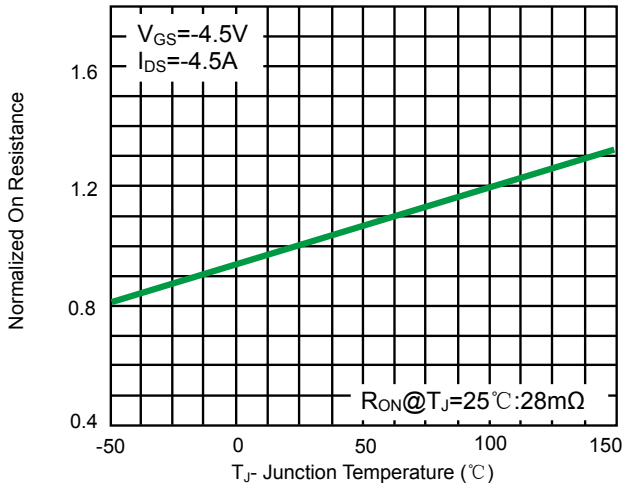


Fig 9. Drain-Source On Resistance

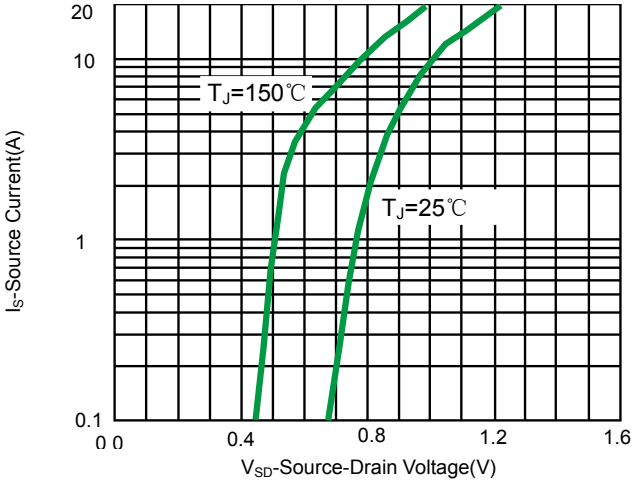


Fig 10. Source-Drain Diode Forward

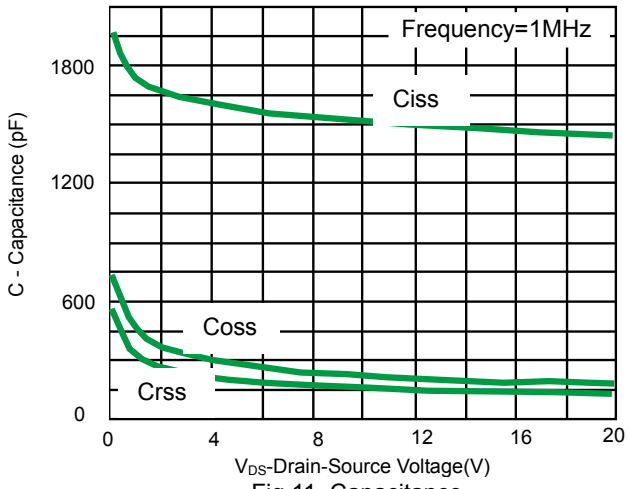


Fig 11. Capacitance

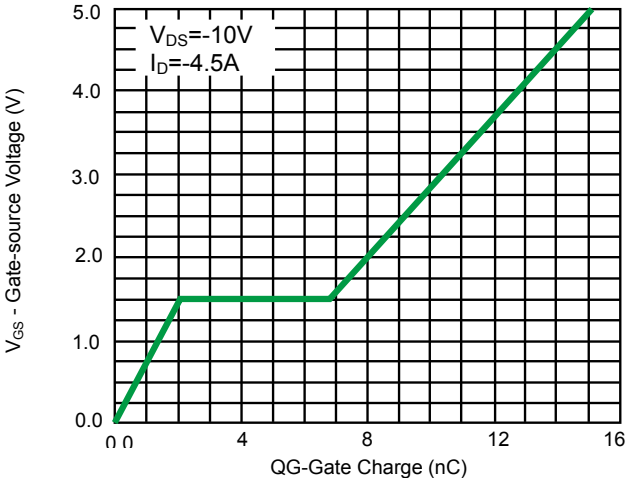
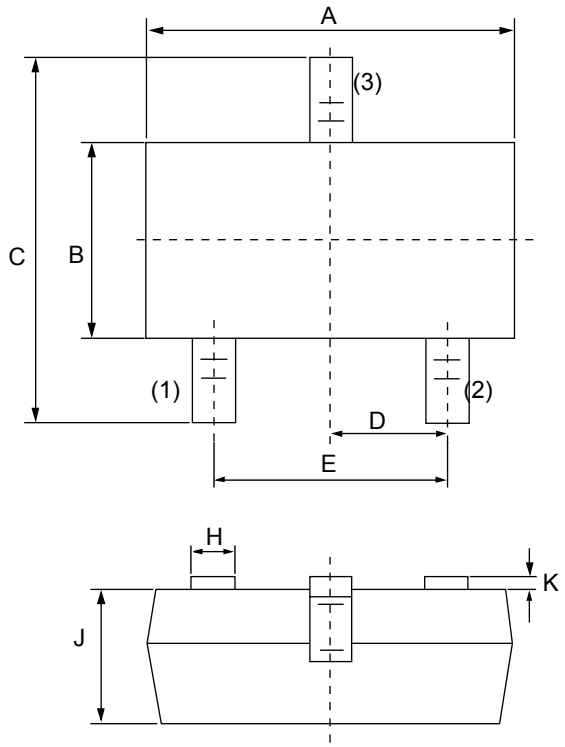
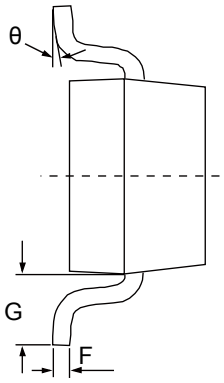


Fig 12. Gate Charge

Product dimension(SOT-23-3L)





Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.82	3.02	0.111	0.119
B	1.50	1.70	0.059	0.067
C	2.65	2.95	0.104	0.116
D	0.950(BSC)		0.037(BSC)	
E	1.80	2.00	0.071	0.079
F	0.10	0.20	0.004	0.008
G	0.55(REF)		0.022(REF)	
H	0.30	0.50	0.012	0.020
J	1.05	1.15	0.041	0.045
K	0.00	0.10	0.000	0.004
θ	0°	8°	0°	8°

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