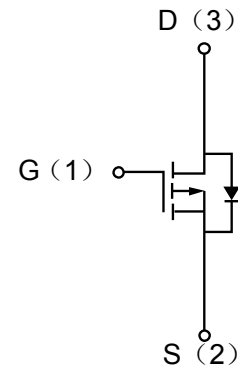


Description

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

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(m\Omega)$	$I_D(A)$
-30	67 @ $V_{GS}=-4.5V$	-4.3



Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-4.3	A
Pulsed Drain Current	I_{DM}	-20	A
Maximum Power Dissipation	P_D	1.5	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Thermal resistance

Parameter	Symbol	Value	Units
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	84	°C/W

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = -250\mu A, V_{GS} = 0V$	-30	-33	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$	-	-	-1.0	μA
Gate-to-Source Forward Leakage	I_{GSS}	$V_{GS} = \pm 20V$	-	-	± 100	nA
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = -1A$			-1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4A$	-	50	60	m Ω
		$V_{GS} = -4.5V, I_D = -4A$	-	67	90	
Forward Trans conductance	g_{FS}	$V_{DS} = -5V, I_D = -4A$	5.5	-	-	S
Total Gate Charge	Qg	$I_D = -4A, V_{DS} = -15V, V_{GS} = -10V$	-	14		nC
Gate-to-Source Charge	Qgs		-	3.1		
Gate-to-Drain(Miller) Charge	Qgd		-	3		
Input Capacitance	C_{ISS}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$	-	700		pF
Output Capacitance	C_{DSS}		-	120		pF
Reverse Transfer Capacitance	C_{RSS}		-	75		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -15V, V_{GS} = -10V, R_L = 3.6\Omega, R_{GEN} = 3\Omega$	-	9	-	ns
Rise Time	t_r		-	5	-	
Turn-Off Delay Time	$t_{d(off)}$		-	28	-	
Fall Time	t_f		-	13.5	-	

Typical Characteristics

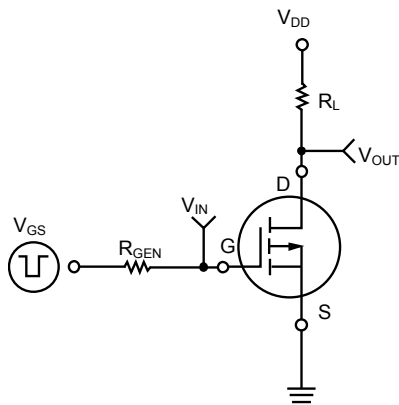


Figure 1. Switching Test Circuit

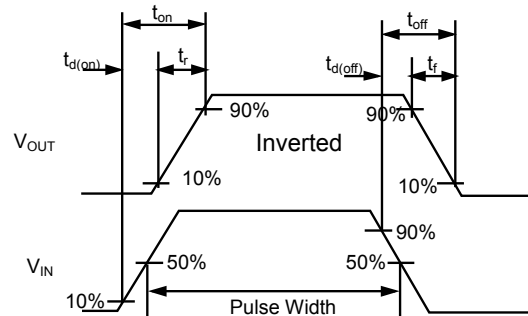


Figure 2. Switching Waveforms

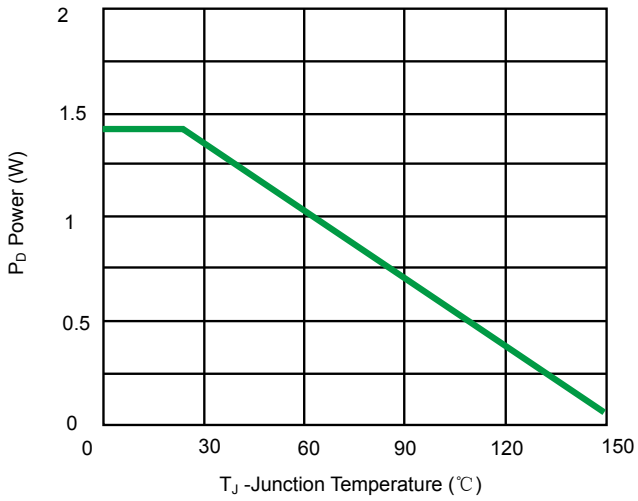


Fig 3. Power Dissipation

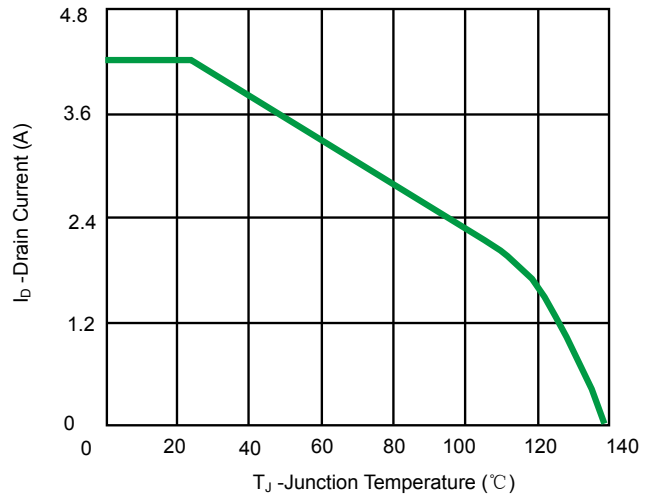


Fig 4. Drain Current

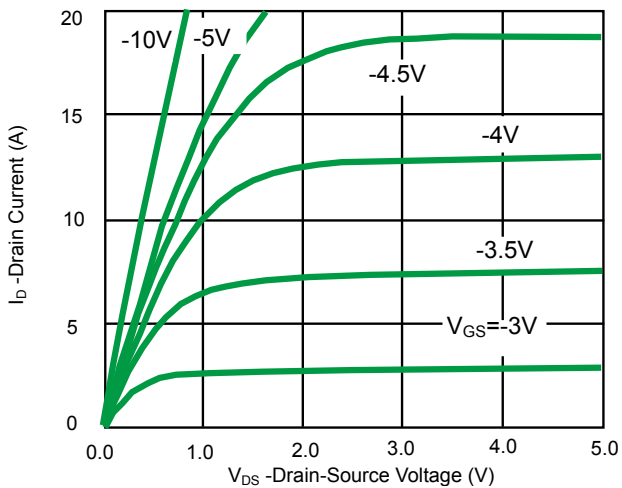


Fig 5. Output characteristics

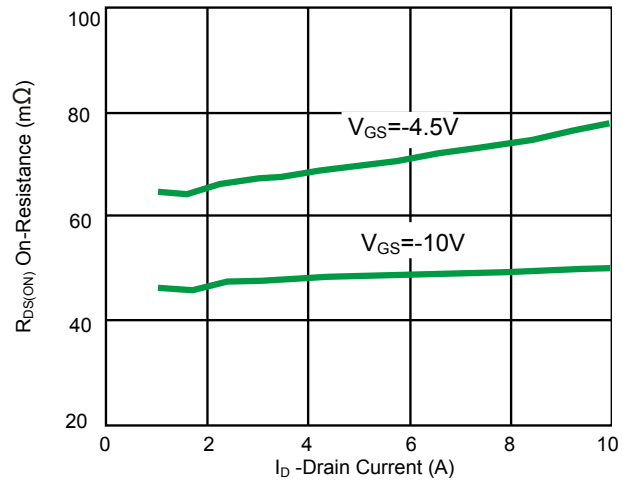


Fig 6. Drain-Source On-Resistance

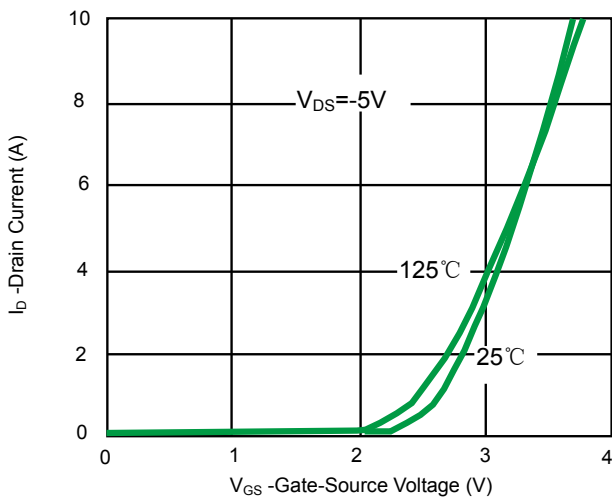


Fig 7. Transfer Characteristics

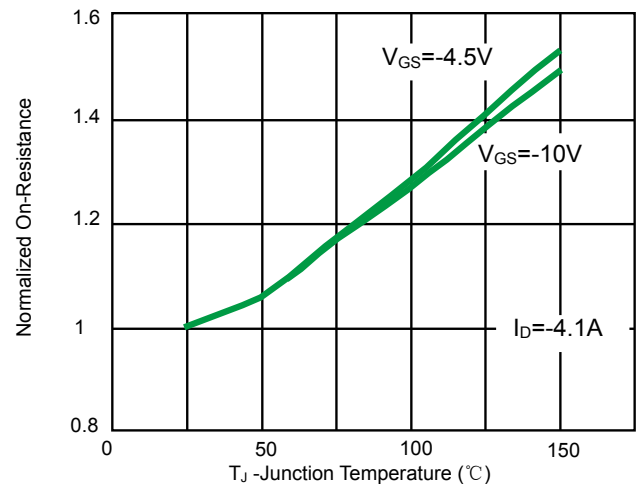


Fig 8. Drain-Source On-Resistance

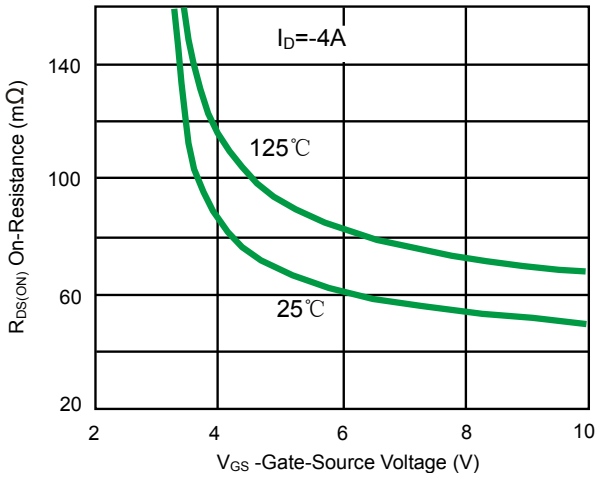


Fig 9. $R_{DS(ON)}$ vs. V_{GS}

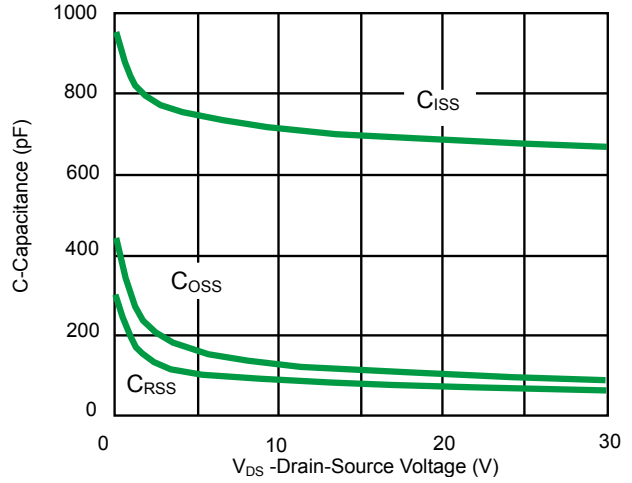


Fig 10. Capacitance vs. V_{DS}

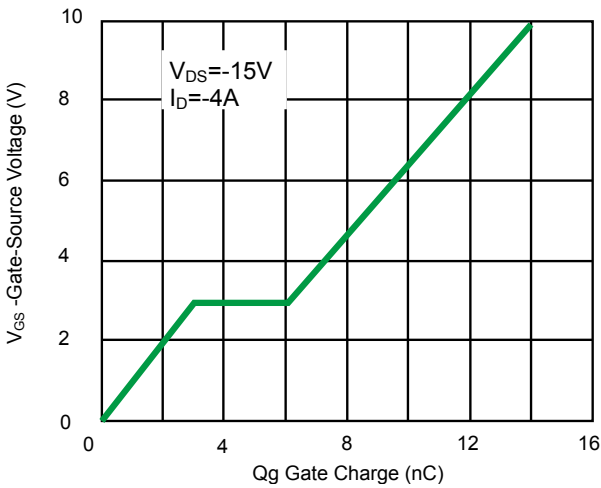


Fig 11. Gate Charge

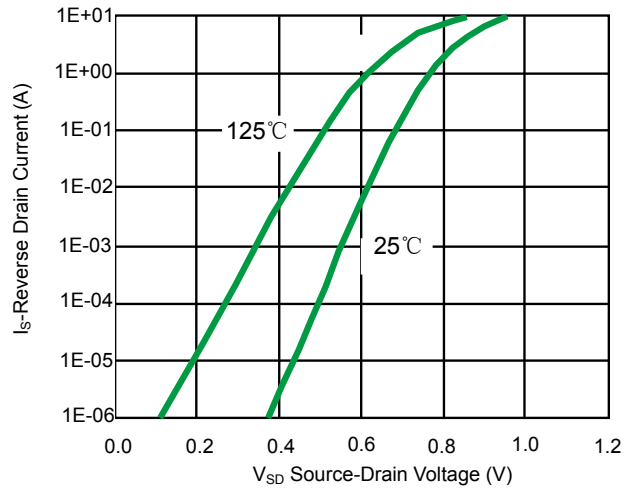


Fig 12. Source-Drain Diode Forward

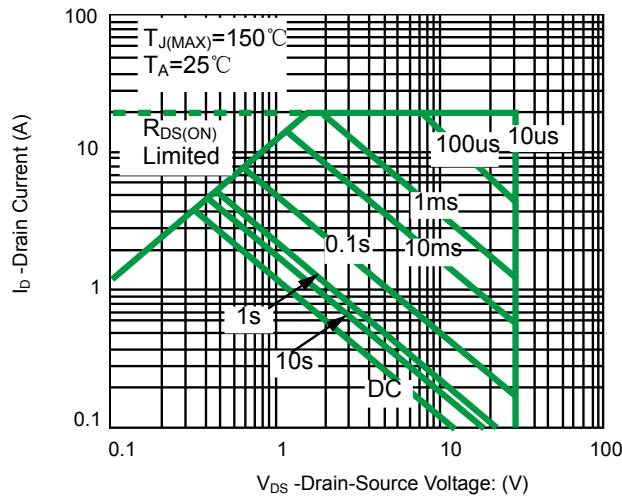


Figure 13. Safe Operation Area

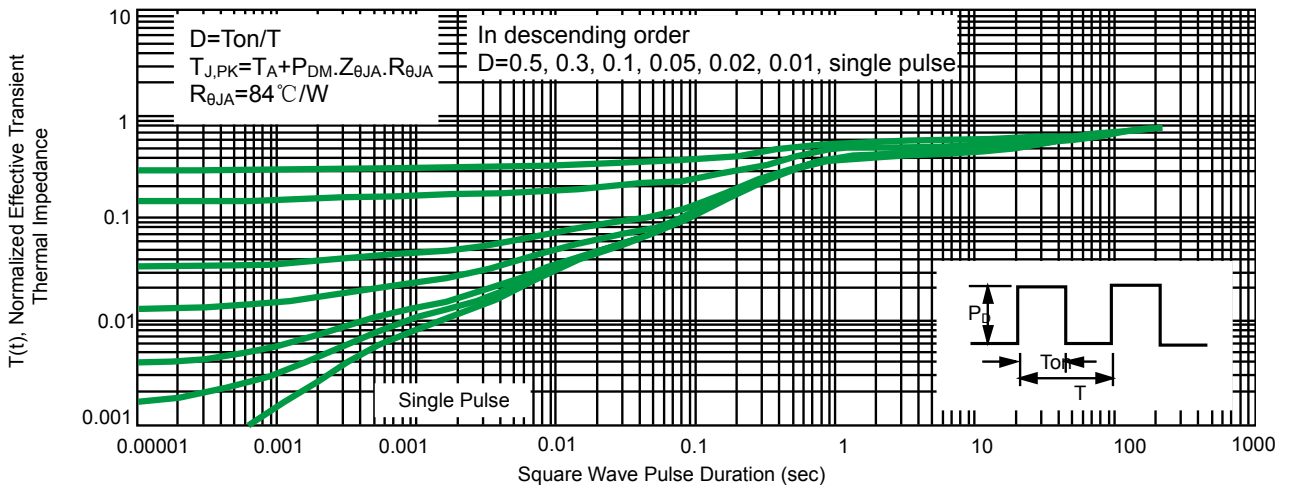
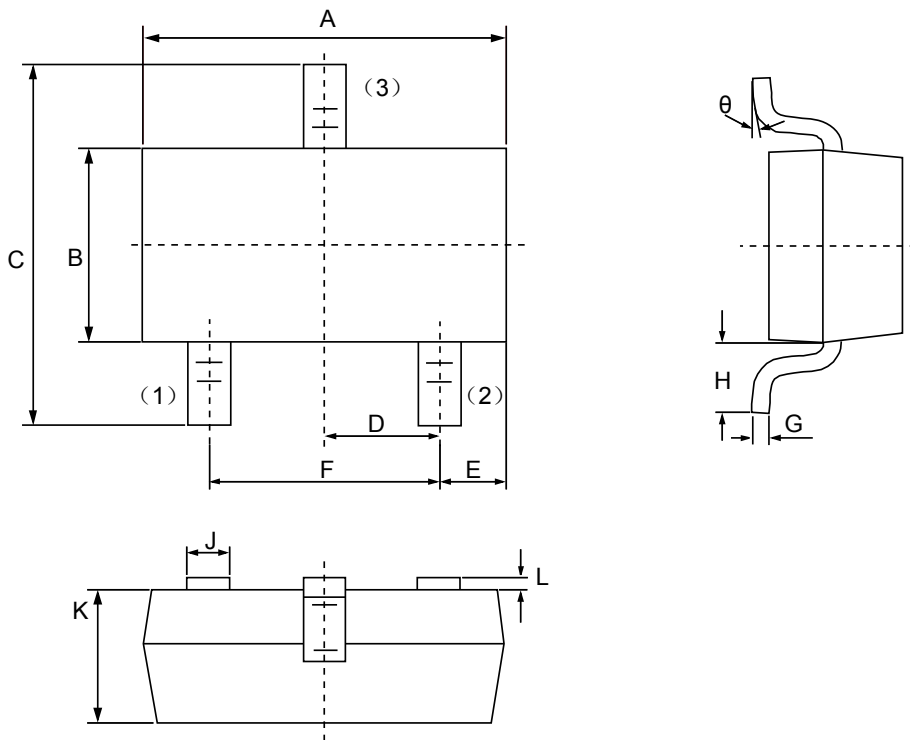



Fig 14. Normalized Maximum Transient Thermal Impedance

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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