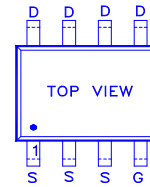
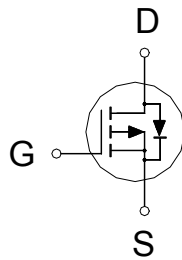


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	28mΩ	-6A



G : GATE
D : DRAIN
S : SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	-6	A
	$T_A = 70\text{ }^\circ\text{C}$		-4.7	
Pulsed Drain Current ¹		I_{DM}	-24	
Avalanche Current		I_{AS}	-19.3	
Avalanche Energy	L = 0.1mH	E_{AS}	18.6	mJ
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	1.7	W
	$T_A = 70\text{ }^\circ\text{C}$		1.1	
Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$R_{\theta JA}$		72	°C / W

¹ Pulse width limited by maximum junction temperature.

² The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25\text{ }^\circ\text{C}$.

ELECTRICAL CHARACTERISTICS ($T_j = 25\text{ }^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.8	-1.5	-2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_j = 55\text{ }^\circ\text{C}$			-10	

Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = -4.5V, I _D = -6A	32	45	mΩ
		V _{GS} = -10V, I _D = -6A	22	28	
Forward Transconductance ¹	g _{fs}	V _{DS} = -5V, I _D = -6A	22		S

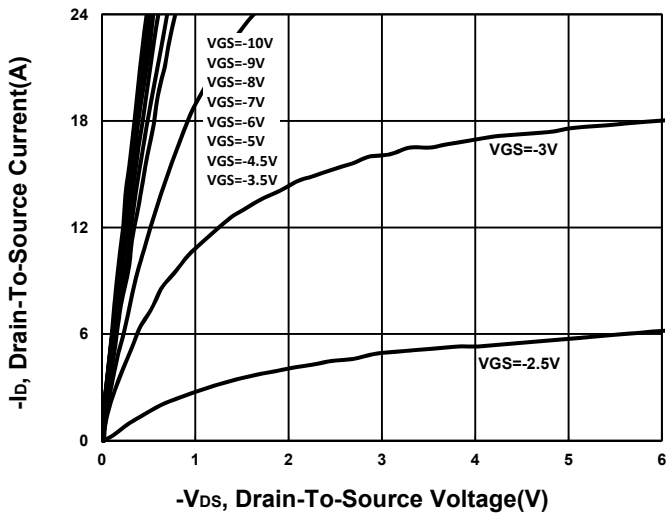
DYNAMIC					
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -15V, f = 1MHz	846		pF
Output Capacitance	C _{oss}		120		
Reverse Transfer Capacitance	C _{rss}		106		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz	11		Ω
Total Gate Charge ²	Q _g	V _{DS} = -15V, V _{GS} = -10V, I _D = -6A	20		nC
Gate-Source Charge ²	Q _{gs}		2.4		
Gate-Drain Charge ²	Q _{gd}		4.8		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = -15V I _D ≅ -6A, V _{GS} = -10V, R _{GEN} = 6Ω	10.4		nS
Rise Time ²	t _r		7.8		
Turn-Off Delay Time ²	t _{d(off)}		22		
Fall Time ²	t _f		7		

SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)					
Continuous Current	I _S			-1.7	A
Forward Voltage ¹	V _{SD}	I _F = -6A, V _{GS} = 0V		-1	V
Reverse Recovery Time	t _{rr}	I _F = -6A, dI/dt=100A/μs	12.2		nS
Reverse Recovery Charge	Q _{rr}		3.5		nC

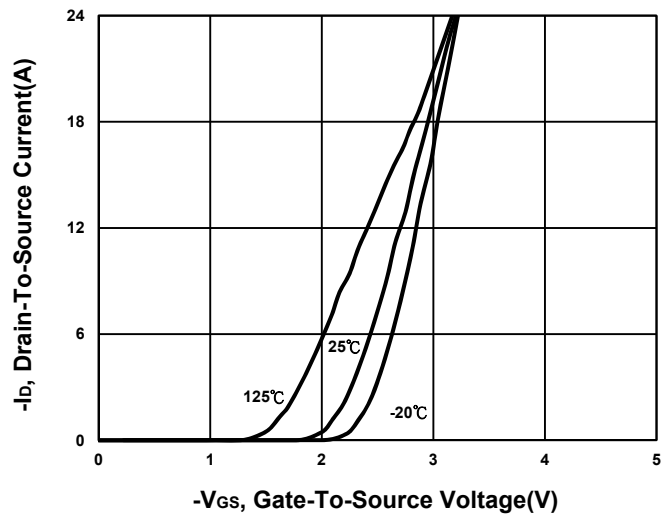
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

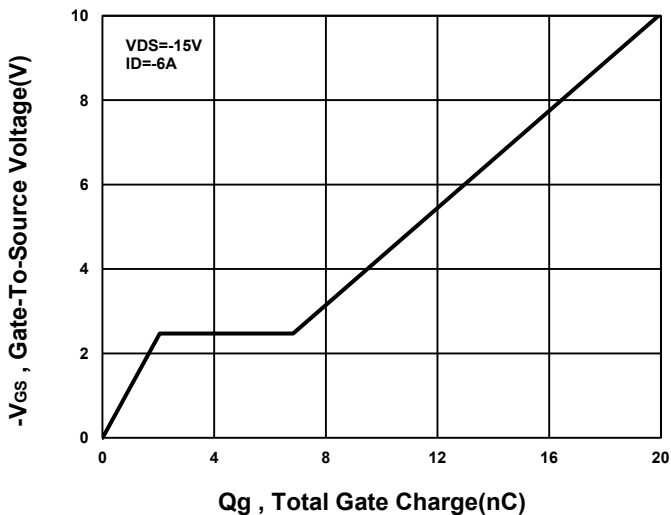
Output Characteristics



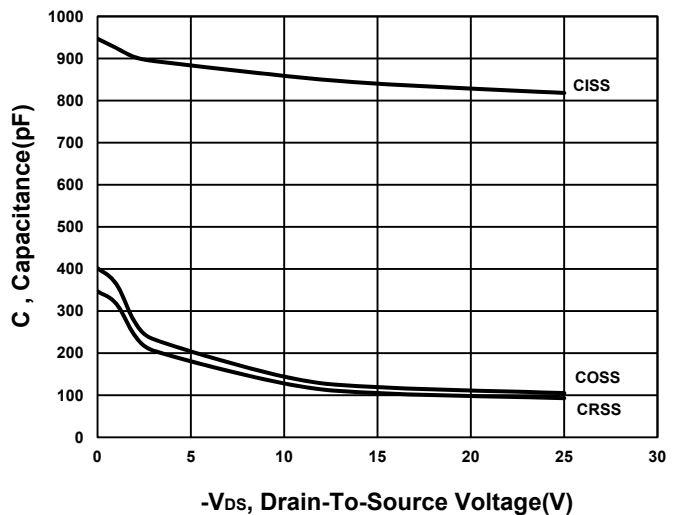
Transfer Characteristics



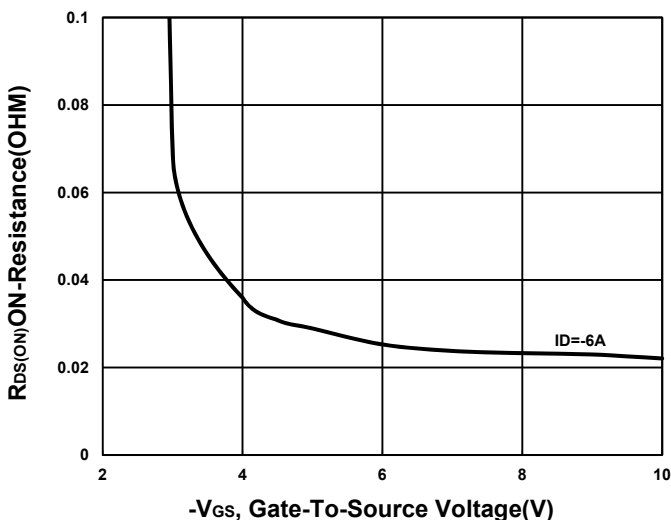
Gate charge Characteristics



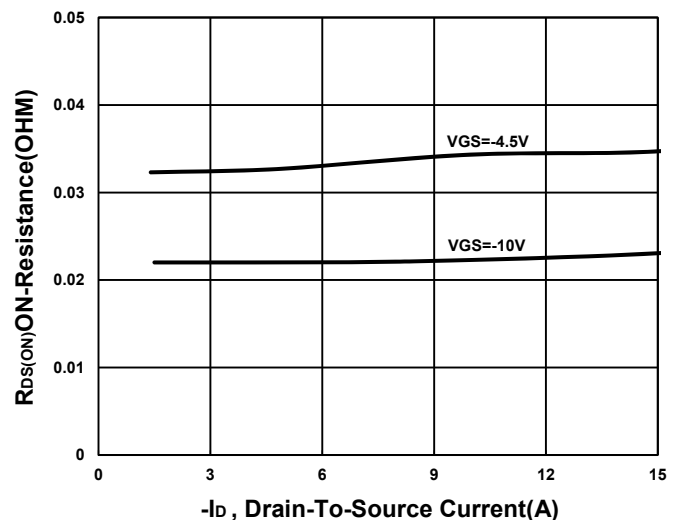
Capacitance Characteristic



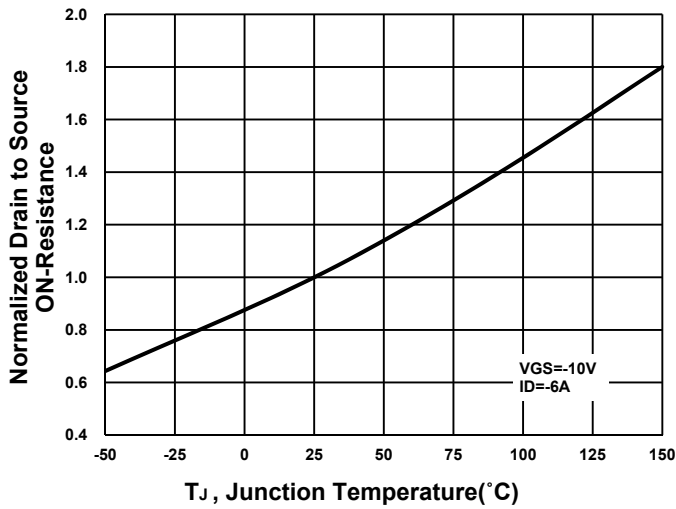
On-Resistance VS Gate-To-Source



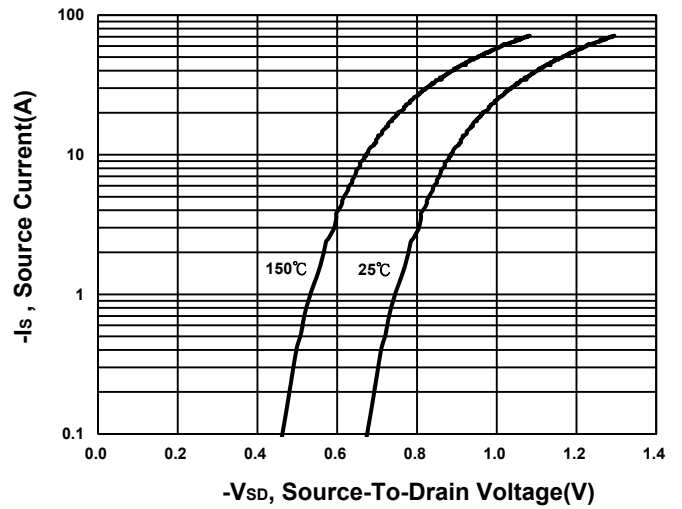
On-Resistance VS Drain Current



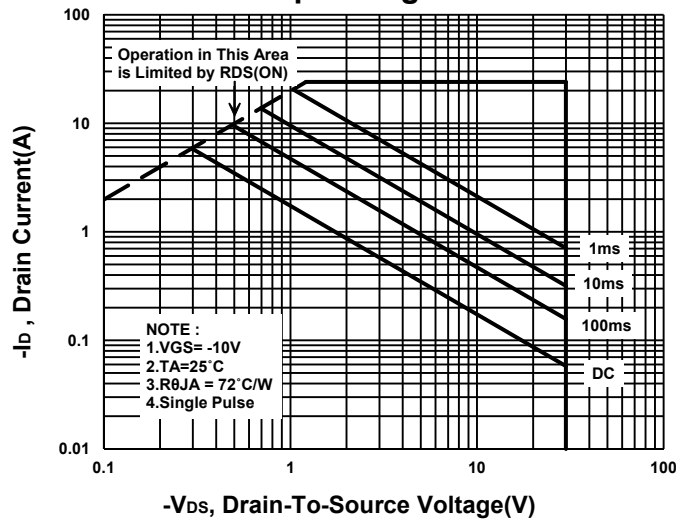
On-Resistance VS Temperature



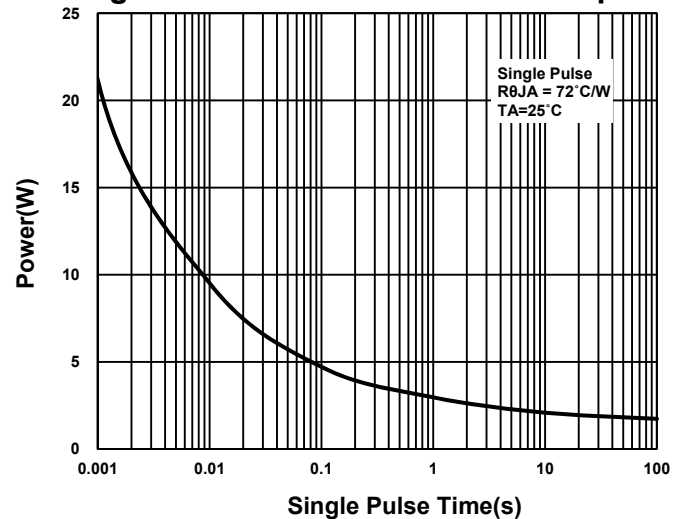
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

