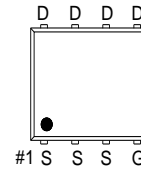
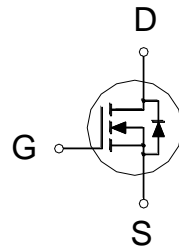


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D^3
30V	14mΩ	27A



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °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 ³	T _C = 25 °C	I_D	27	A
	T _C = 100 °C		17	
	T _A = 25 °C		8	
	T _A = 70 °C		6	
Pulsed Drain Current ¹		I_{DM}	66	
Avalanche Current		I_{AS}	14.7	
Avalanche Energy	L = 0.1mH	E_{AS}	10.8	mJ
Power Dissipation	T _C = 25 °C	P_D	18	W
	T _C = 100 °C		7	
	T _A = 25 °C		1.7	
	T _A = 70 °C		1.1	
Operating 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	$R_{θJA}$		71.5	°C / W
Junction-to-Case	$R_{θJC}$		6.8	

¹Pulse width limited by maximum junction temperature.

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

³Package limitation current is 11A

ELECTRICAL CHARACTERISTICS (T_J = 25 °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	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.7	2.3	

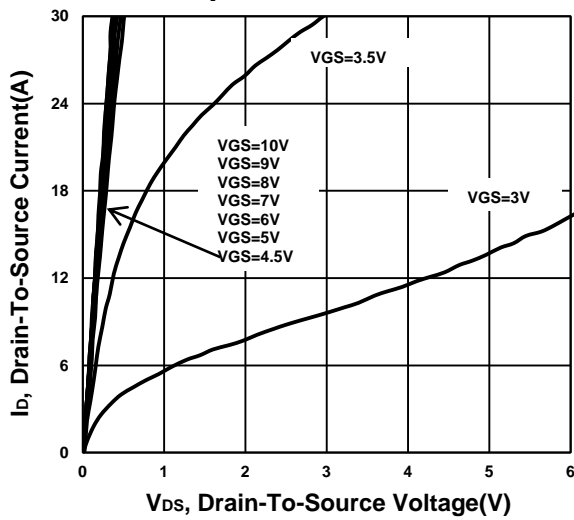
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ }^\circ C$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6.8A$		14	22	m Ω
		$V_{GS} = 10V, I_D = 7A$		11	14	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 7A$		32		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		427		pF
Output Capacitance	C_{oss}			83		
Reverse Transfer Capacitance	C_{rss}			50		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		3.8		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 15V, I_D = 7A$		9.1		nC
	$Q_{g(VGS=4.5V)}$			5		
Gate-Source Charge ²	Q_{gs}			1.2		
Gate-Drain Charge ²	Q_{gd}			2.6		
Turn-On Delay Time ²	$t_{d(on)}$		$V_{DD} = 15V$ $I_D \cong 7A, V_{GEN} = 10V, R_G = 6\Omega$		17	
Rise Time ²	t_r			18		
Turn-Off Delay Time ²	$t_{d(off)}$			38		
Fall Time ²	t_f			20		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ C$)						
Continuous Current ³	I_S				18	A
Forward Voltage ¹	V_{SD}	$I_F = 7A, V_{GS} = 0V$			1	V
Reverse Recovery Time	t_{rr}	$I_F = 7A, di_F/dt = 100A / \mu S$		10.6		nS
Reverse Recovery Charge	Q_{rr}			2.6		nC

¹Pulse test : Pulse Width $\leq 300\ \mu sec$, Duty Cycle $\leq 2\%$.

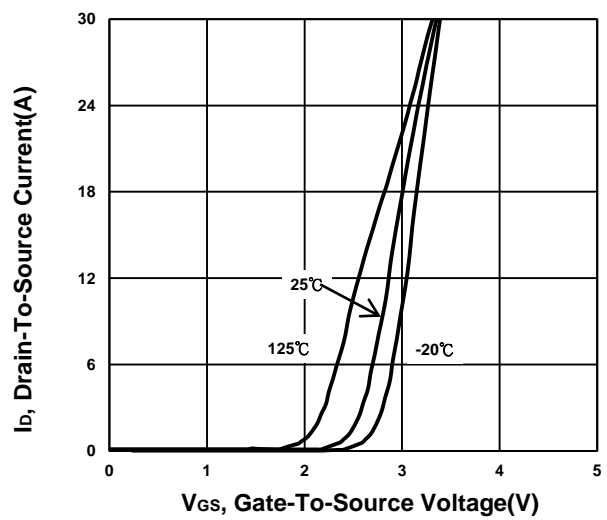
²Independent of operating temperature.

³Package limitation current is 11A

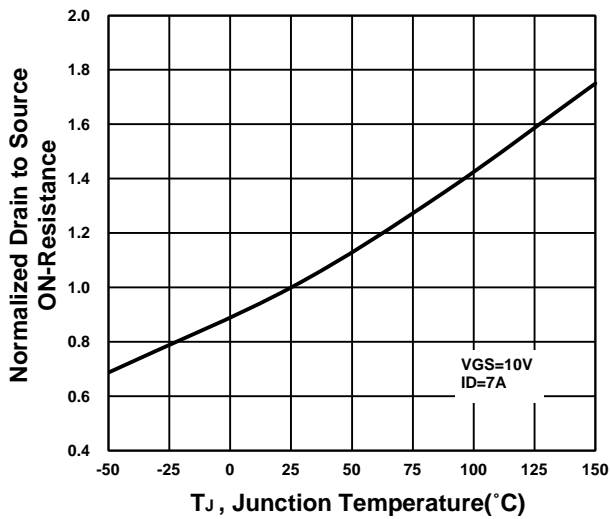
Output Characteristics



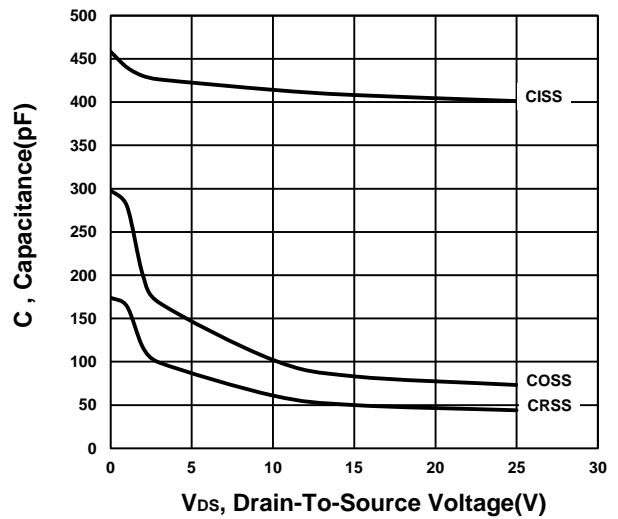
Transfer Characteristics



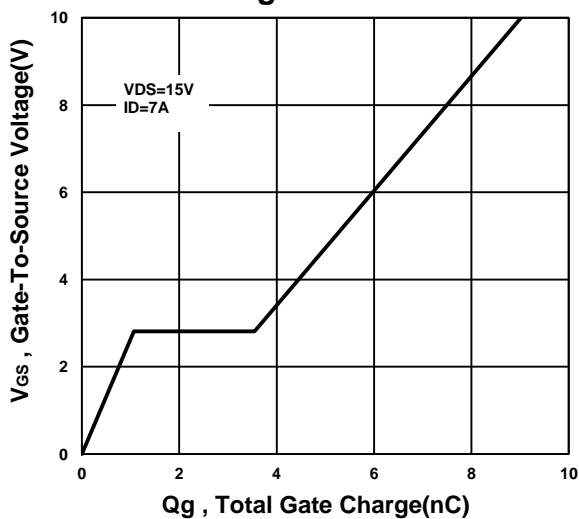
On-Resistance VS Temperature



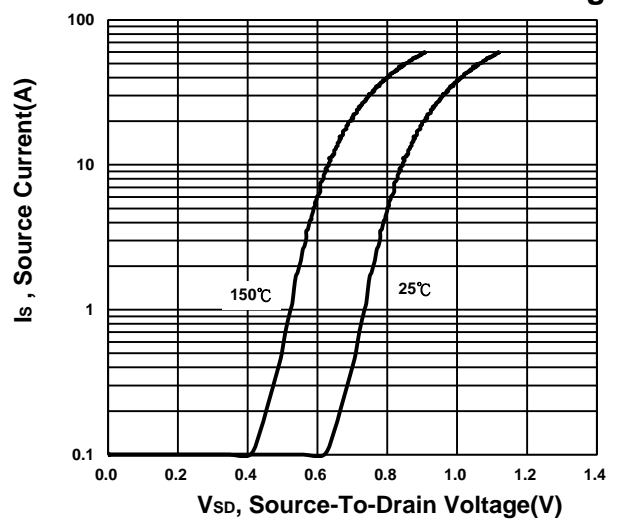
Capacitance Characteristic



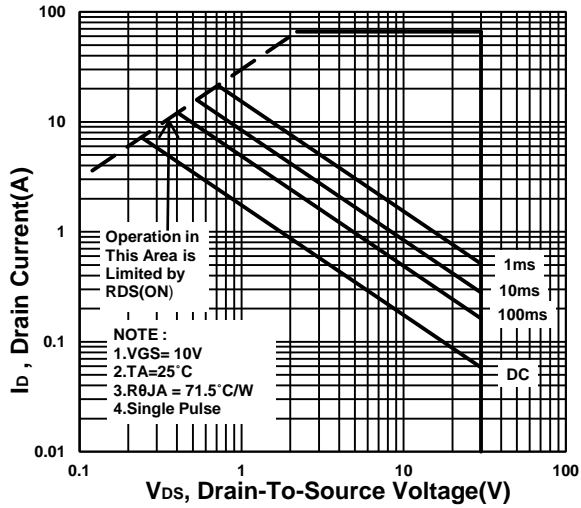
Gate charge Characteristics



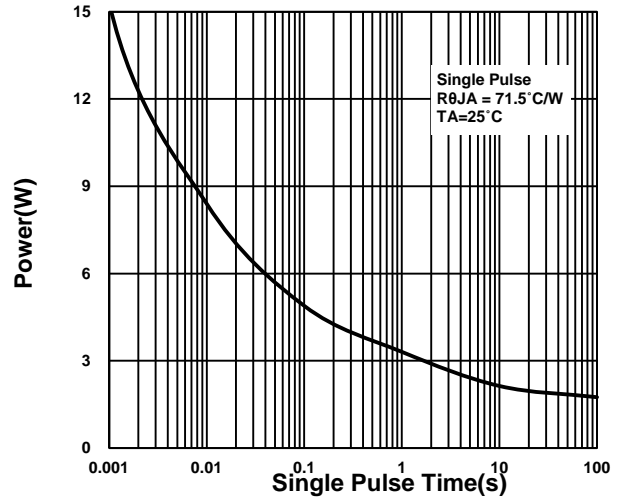
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

