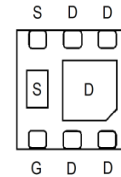
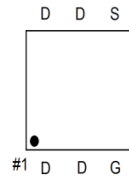
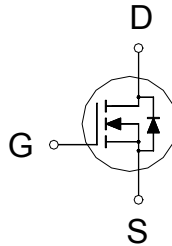


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	18m Ω	7.3A



G : GATE
D : DRAIN
S : SOURCE

100% RG Test , 100% UIL Test

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	7.3	A
	$T_A = 70\text{ }^{\circ}\text{C}$		5.9	
Pulsed Drain Current ¹		I_{DM}	21	
Avalanche Current		I_{AS}	12.8	
Avalanche Energy	L = 0.1mH	E_{AS}	8.2	mJ
Power Dissipation	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	1.5	W
	$T_A = 70\text{ }^{\circ}\text{C}$		1	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$R_{\theta JA}$		80	$^{\circ}\text{C}/\text{W}$

¹Pulse width limited by maximum junction temperature.²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Coppe.ELECTRICAL CHARACTERISTICS ($T_J = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)

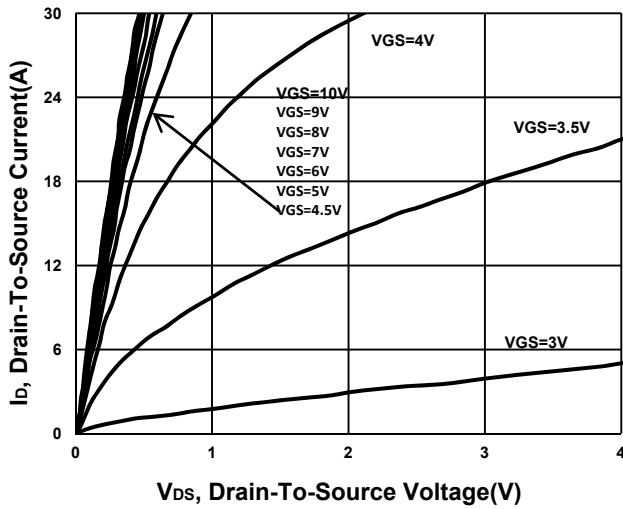
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.75	2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 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	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$		19	27	m Ω
		$V_{GS} = 10V, I_D = 7A$		13	18	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 7A$		31		S

DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 15V, f = 1MHz		329		pF
Output Capacitance	C _{oss}			68		
Reverse Transfer Capacitance	C _{rss}			48		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		2.6		Ω
Total Gate Charge ²	Q _g (V _{GS} =10V)	V _{DS} = 15V , I _D = 7A		8.1		nC
	Q _g (V _{GS} =4.5V)			4.5		
Gate-Source Charge ²	Q _{gs}			1.1		
Gate-Drain Charge ²	Q _{gd}			2.4		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 15V I _D ≅ 7A, V _{GEN} = 10V, R _G = 6Ω		17		nS
Rise Time ²	t _r			17		
Turn-Off Delay Time ²	t _{d(off)}			37		
Fall Time ²	t _f			18		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current	I _S				1.5	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 / μS		9.6		nS
Reverse Recovery Charge	Q _{rr}			2.9		nC

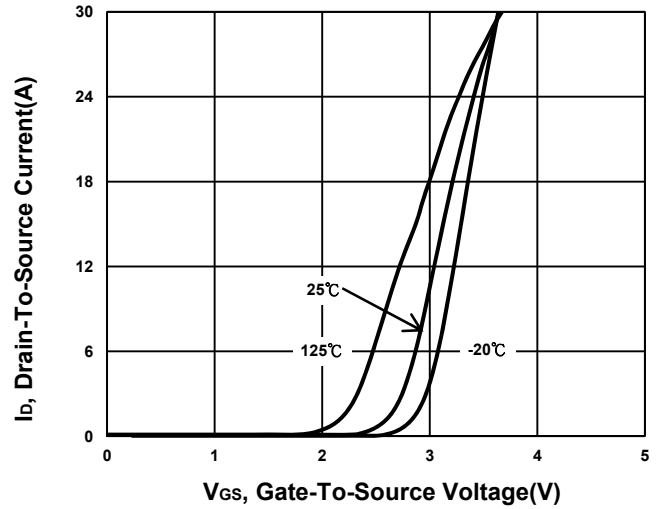
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

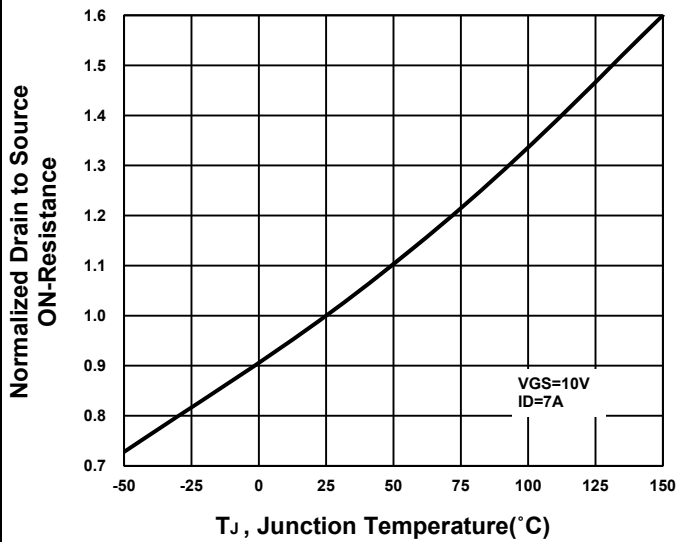
Output Characteristics



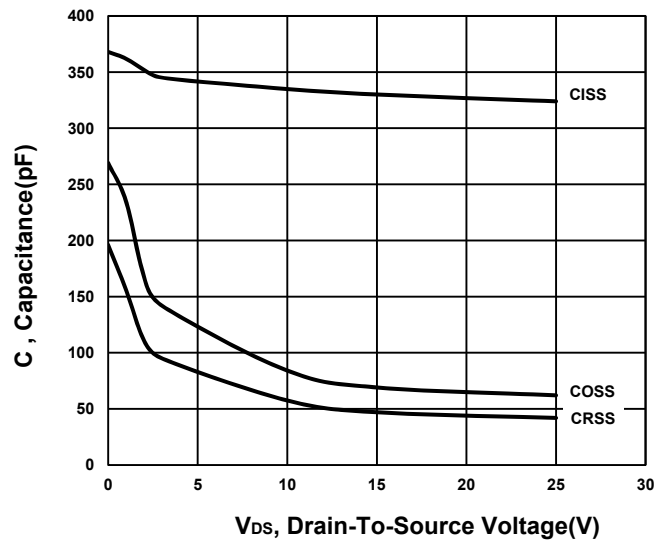
Transfer Characteristics



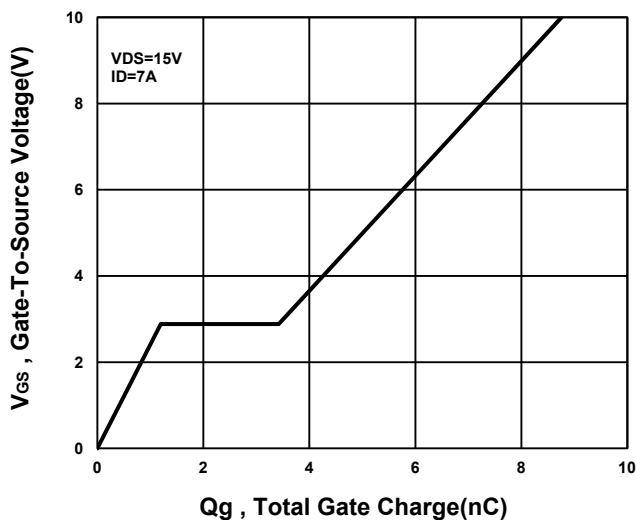
On-Resistance VS Temperature



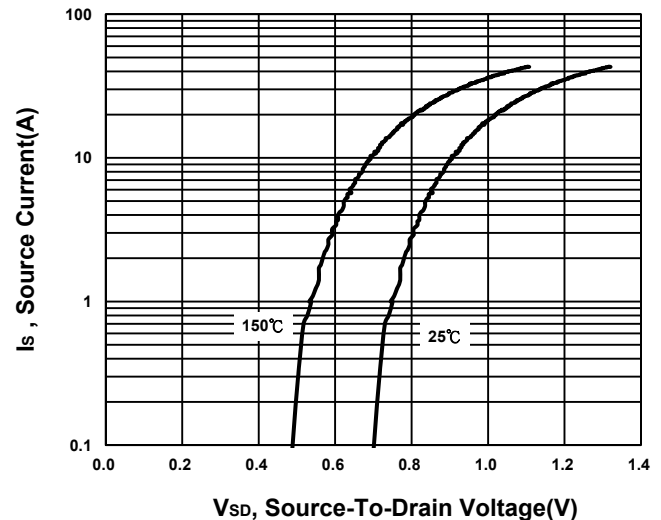
Capacitance Characteristic



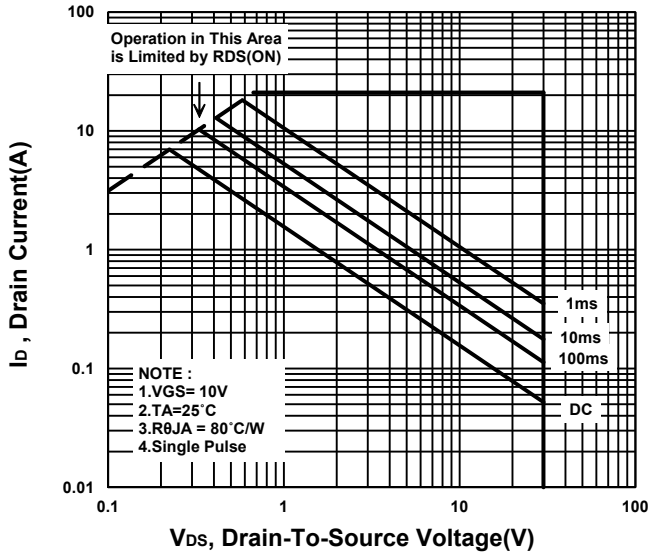
Gate charge Characteristics



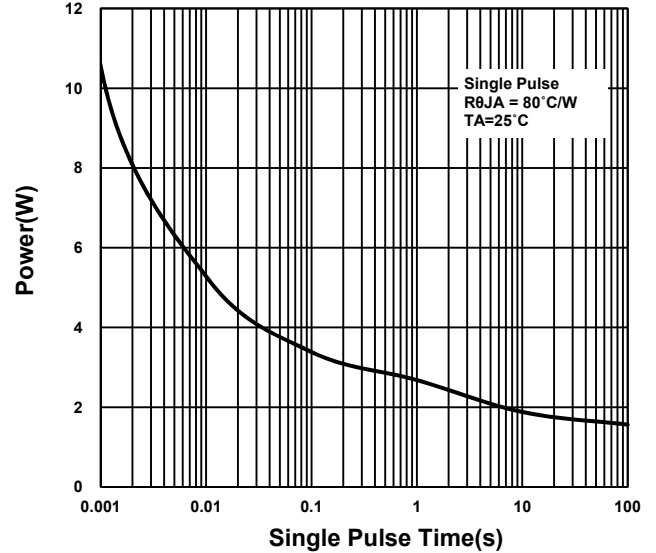
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

