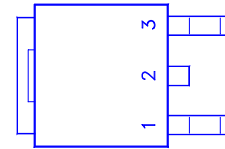
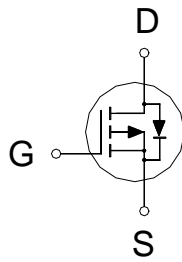


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30V	8mΩ	-71A



- 1. GATE
- 2. DRAIN
- 3. SOURCE



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±25	V
Continuous Drain Current ²	$T_C = 25\text{ °C}$	I_D	-71	A
	$T_C = 100\text{ °C}$		-45	
Pulsed Drain Current ¹		I_{DM}	-160	
Avalanche Current		I_{AS}	-36	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	64.8	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	73	W
	$T_C = 100\text{ °C}$		29	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		1.7	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

²Package limitation current is -55A.

ELECTRICAL CHARACTERISTICS ($T_J = 25\text{ °C}$, 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	-1.6	-3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 25V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 125\text{ °C}$			-10	

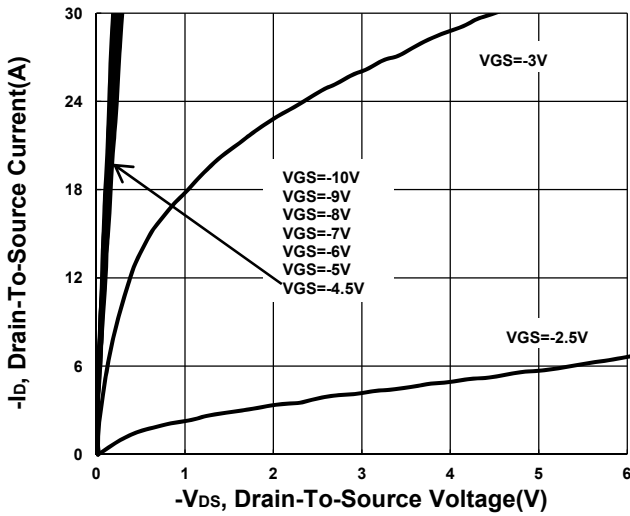
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -20A$	6.5	8	mΩ		
		$V_{GS} = -4.5V, I_D = -20A$	9.6	14			
Forward Transconductance ¹	g_{fs}	$V_{DS} = -5V, I_D = -20A$	49		S		
DYNAMIC							
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$	2464		pF		
Output Capacitance	C_{oss}		374				
Reverse Transfer Capacitance	C_{rss}		271				
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	3.8		Ω		
Total Gate Charge ²	$Q_g(V_{GS}=-10V)$	$V_{DS} = -15V, I_D = -20A$	55		nC		
	$Q_g(V_{GS}=-4.5V)$		27				
Gate-Source Charge ²	Q_{gs}		8.3				
Gate-Drain Charge ²	Q_{gd}		11				
Turn-On Delay Time ²	$t_{d(on)}$		$V_{DS} = -15V, I_D \cong -20A, V_{GS} = -10V, R_{GEN} = 6\Omega$	15			nS
Rise Time ²	t_r			20			
Turn-Off Delay Time ²	$t_{d(off)}$	41					
Fall Time ²	t_f	23					
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)							
Continuous Current ³	I_S			-56	A		
Forward Voltage ¹	V_{SD}	$I_F = -20A, V_{GS} = 0V$		-1.3	V		
Reverse Recovery Time	t_{rr}	$I_F = -20A, di_F/dt = 100A / \mu S$	26		nS		
Reverse Recovery Charge	Q_{rr}		13		nC		

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

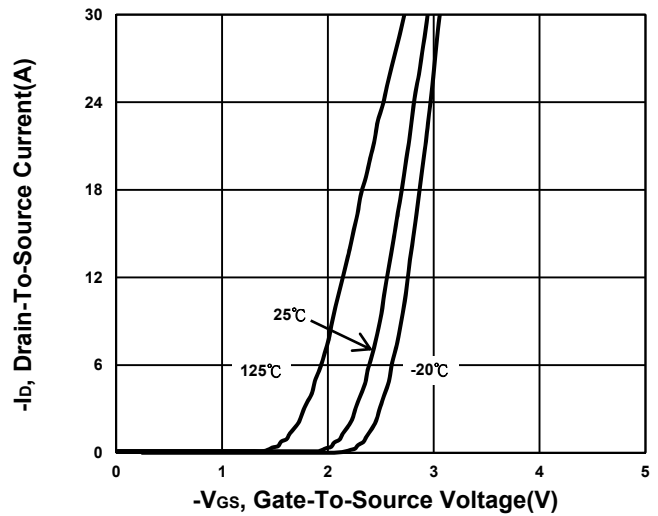
²Independent of operating temperature.

³Package limitation current is -55A.

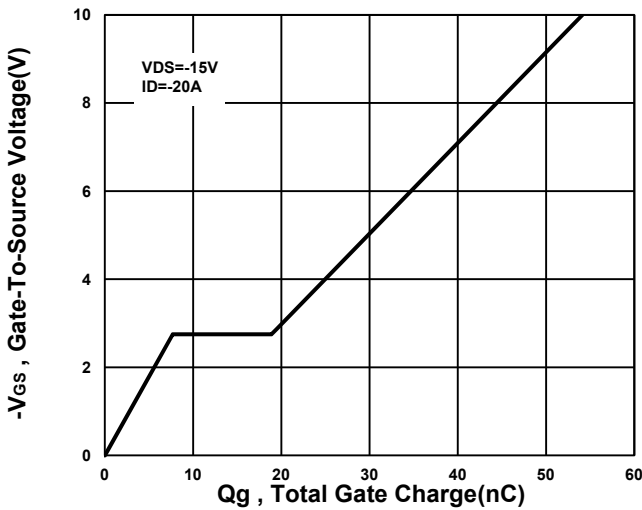
Output Characteristics



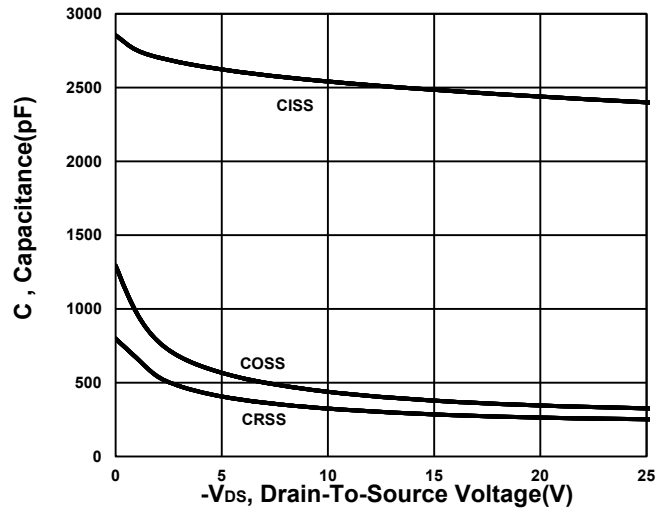
Transfer Characteristics



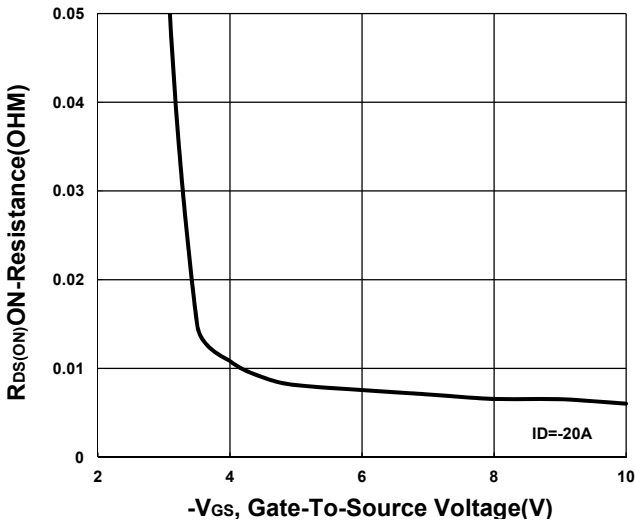
Gate charge Characteristics



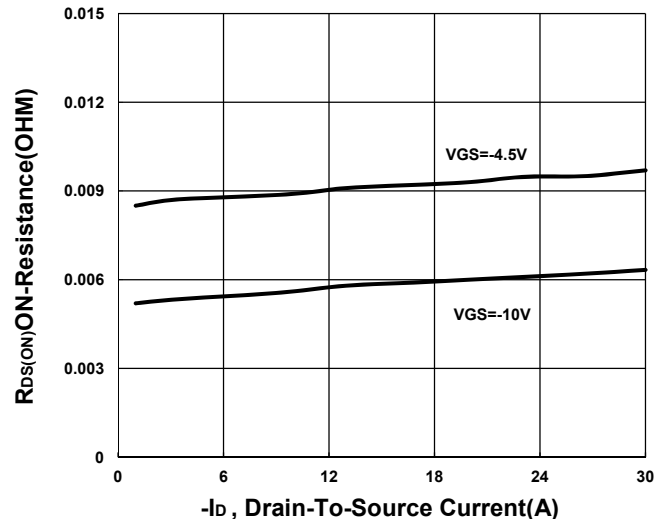
Capacitance Characteristic



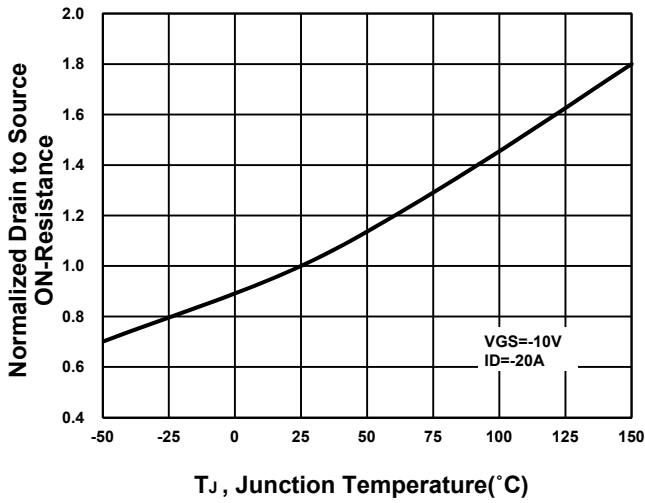
On-Resistance VS Gate-To-Source



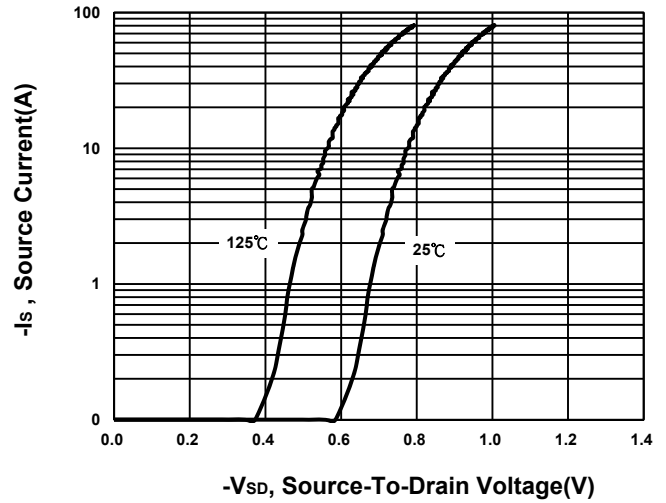
On-Resistance VS Drain Current



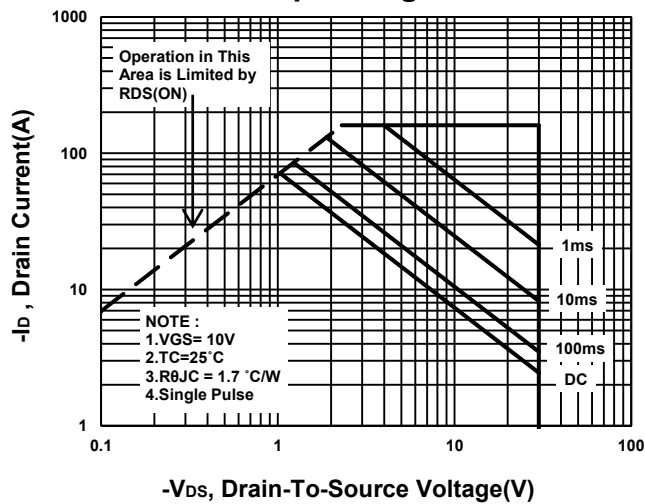
On-Resistance VS Temperature



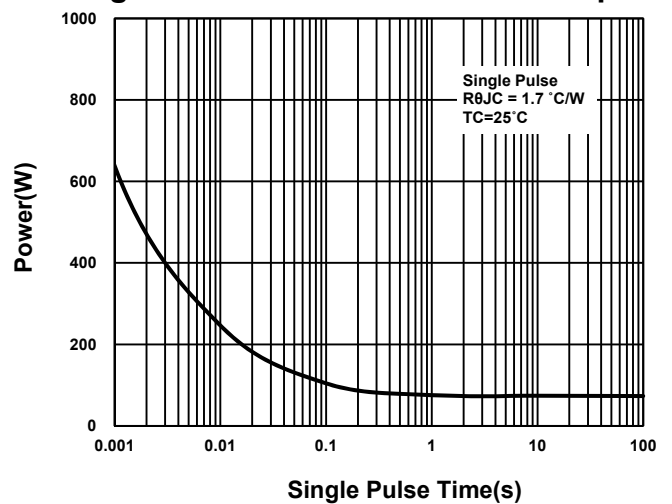
Source-Drain Diode Forward Voltage



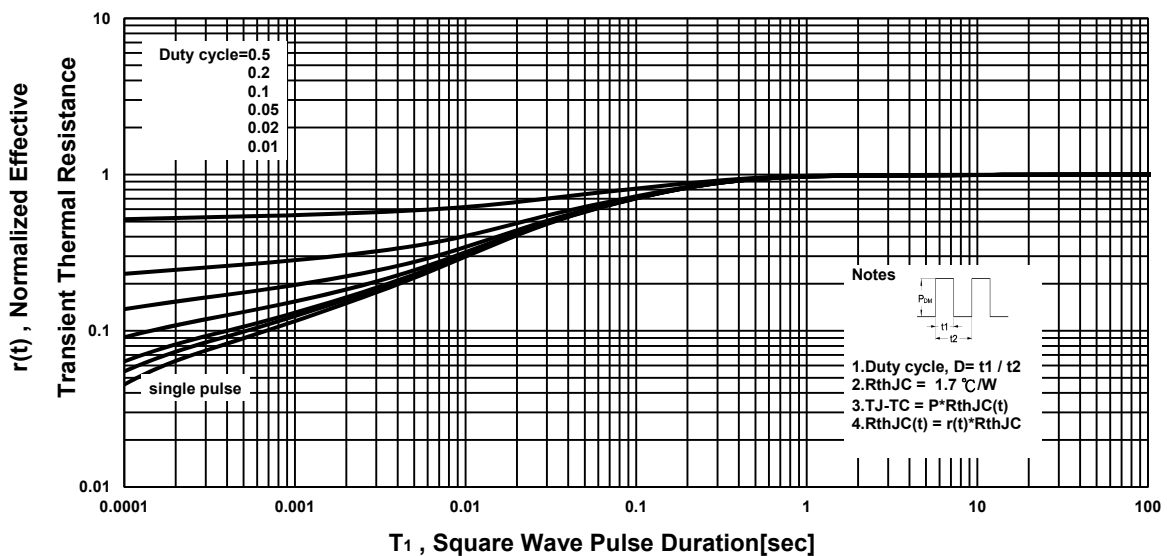
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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