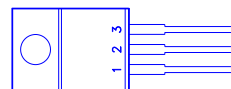
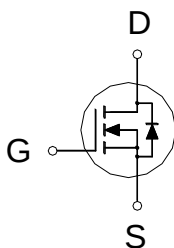


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	22.5m Ω	35A



1. GATE
2. DRAIN
3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25^\circ\text{C}$	I_D	35	A
	$T_C = 100^\circ\text{C}$		22	
Pulsed Drain Current ¹		I_{DM}	100	
Avalanche Current		I_{AS}	26	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	33.8	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	62.5	W
	$T_C = 100^\circ\text{C}$		25	
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-Case	$R_{\theta JC}$		2	$^\circ\text{C/W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

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

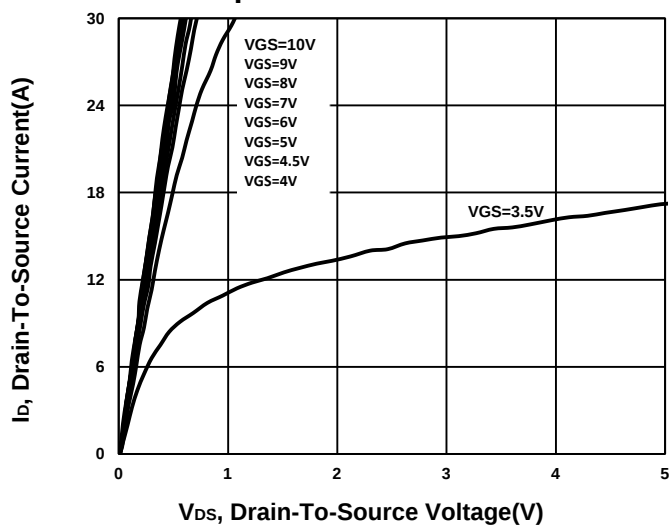
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.75	2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
		$V_{DS} = 40V, V_{GS} = 0V, T_J = 125^\circ C$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 12A$		20	30	mΩ
		$V_{GS} = 10V, I_D = 20A$		17.5	22.5	

Forward Transconductance ¹	g _{fs}		V _{DS} = 5V, I _D = 20A			45		S
DYNAMIC								
Input Capacitance	C _{iss}		V _{GS} = 0V, V _{DS} = 25V, f = 1MHz			1042		pF
Output Capacitance	C _{oss}					126		
Reverse Transfer Capacitance	C _{rss}					88		
Gate Resistance	R _g		V _{GS} = 0V, V _{DS} = 0V, f = 1MHz			1		Ω
Total Gate Charge ²	Q _g	V _{GS} = 10V	V _{DS} =30V,I _D = 20A			25		nC
		V _{GS} = 4.5V				14		
Gate-Source Charge ²	Q _{gs}					3.6		
Gate-Drain Charge ²	Q _{gd}					9.1		
Turn-On Delay Time ²	t _{d(on)}				V _{DD} = 30V, I _D ≅ 20A, V _{GS} = 10V, R _{GEN} =6 Ω			
Rise Time ²	t _r			23				
Turn-Off Delay Time ²	t _{d(off)}			101				
Fall Time ²	t _f			33				
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)								
Continuous Current ³	I _S						35	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/μs			20		nS
Reverse Recovery Charge	Q _{rr}					11		nC

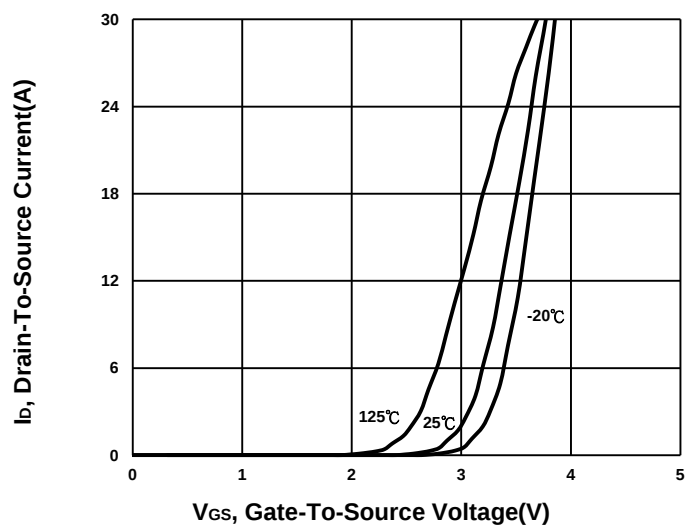
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

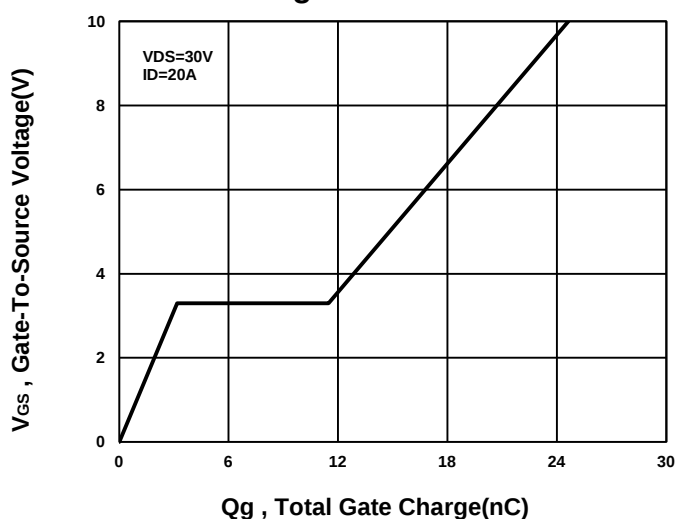
Output Characteristics



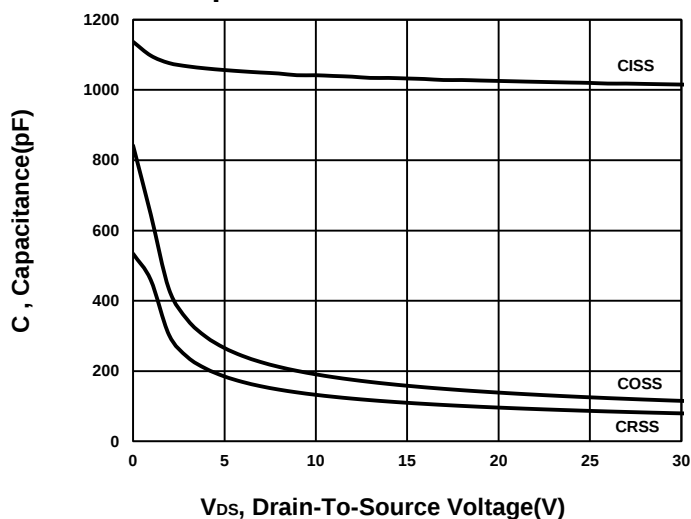
Transfer Characteristics



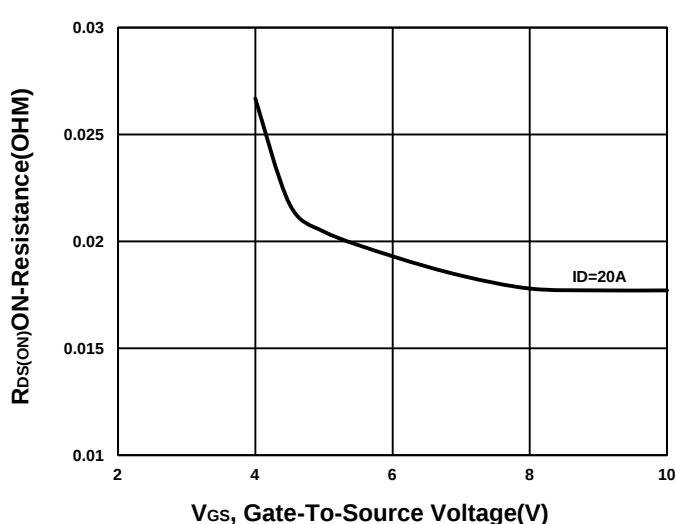
Gate charge Characteristics



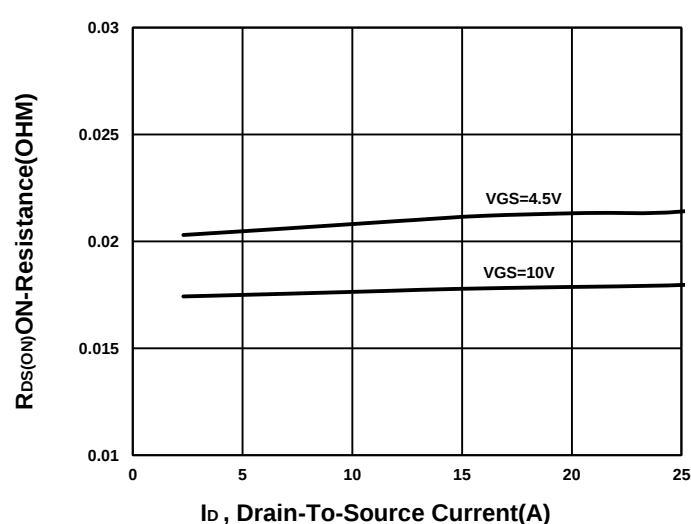
Capacitance Characteristic



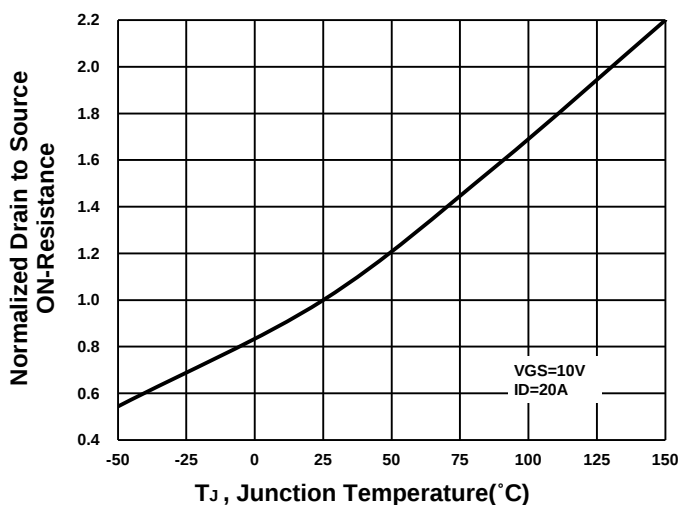
On-Resistance VS Gate-To-Source



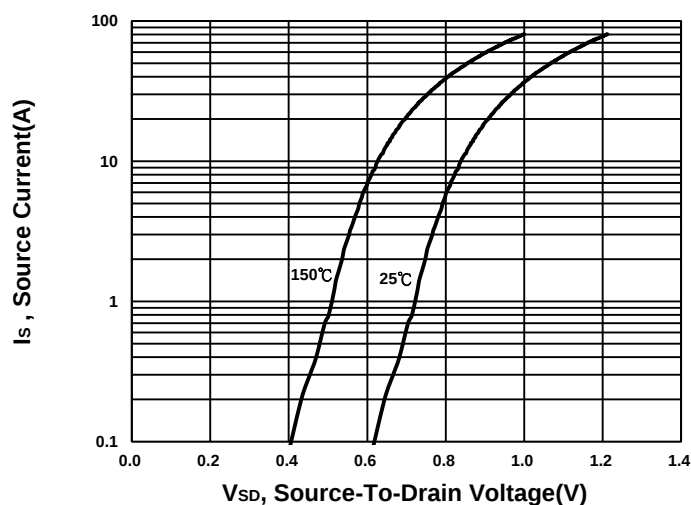
On-Resistance VS Drain Current



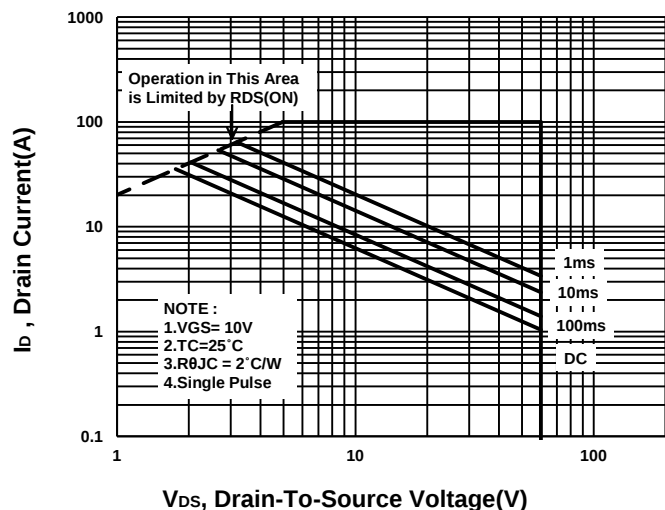
On-Resistance VS Temperature



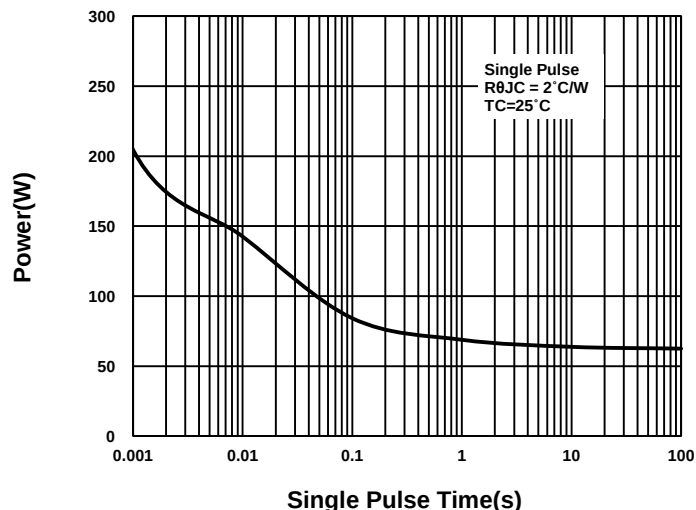
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

