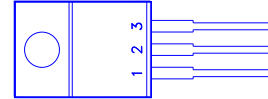
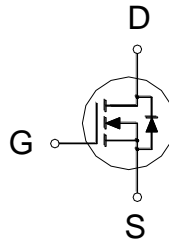




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	2.8m Ω	198A



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

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current ^{2,3}	$T_C = 25\text{ }^\circ\text{C}$	I_D	198	A
	$T_C = 100\text{ }^\circ\text{C}$		140	
Pulsed Drain Current ^{1,2}		I_{DM}	900	
Avalanche Current		I_{AS}	123	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	754	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	230	W
	$T_C = 100\text{ }^\circ\text{C}$		115	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 175	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		0.65	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Limited only by maximum temperature allowed.

³Package limitation current is 110A.

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	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1.3	1.8	2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48\text{V}, V_{GS} = 0\text{V}$			1	μA
		$V_{DS} = 40\text{V}, V_{GS} = 0\text{V}, T_J = 125\text{ }^\circ\text{C}$			10	

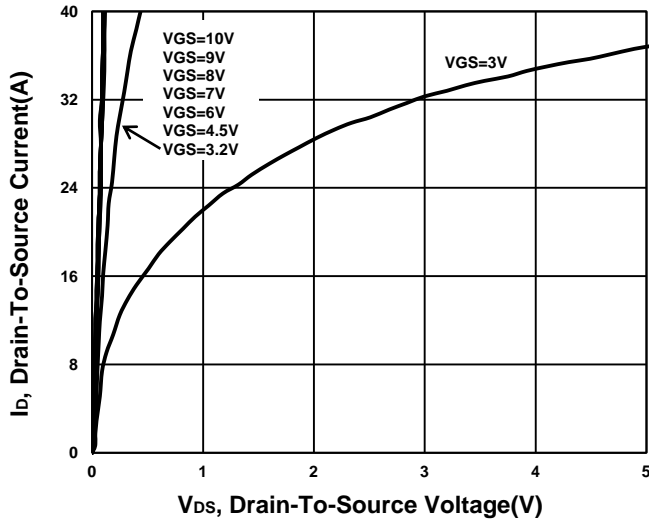
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 20A$	2.4	3.5	mΩ
		$V_{GS} = 10V, I_D = 20A$	2.2	2.8	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 20A$	72		S
DYNAMIC					
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$	10449		pF
Output Capacitance	C_{oss}		1229		
Reverse Transfer Capacitance	C_{rss}		1033		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	0.9		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 30V, V_{GS} = 10V, I_D = 20A$	312		nC
	$Q_{g(VGS=4.5V)}$		169		
Gate-Source Charge ²	Q_{gs}		35		
Gate-Drain Charge ²	Q_{gd}		110		
Turn-On Delay Time ²	$t_{d(on)}$		52		
Rise Time ²	t_r	99			
Turn-Off Delay Time ²	$t_{d(off)}$	413			
Fall Time ²	t_f	242			
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)					
Continuous Current ³	I_S			191	A
Forward Voltage ¹	V_{SD}	$I_F = 20A, V_{GS} = 0V$		1.2	V
Reverse Recovery Time	t_{rr}	$I_F = 20A, di_F/dt = 100A / \mu S$	62		nS
Reverse Recovery Charge	Q_{rr}		90		nC

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

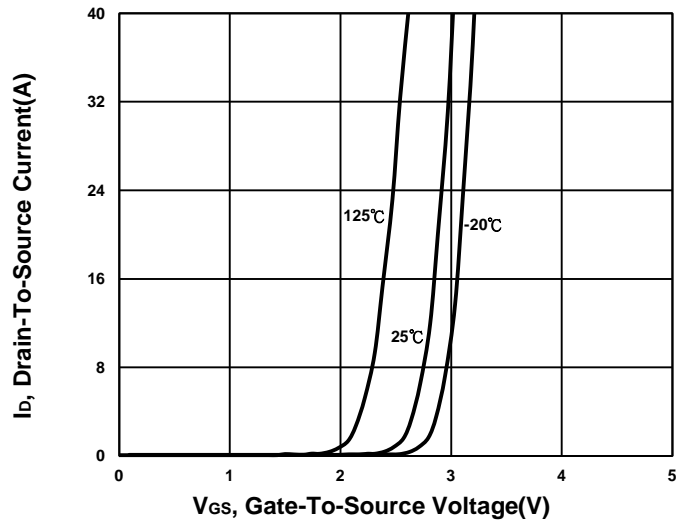
²Independent of operating temperature.

³Package limitation current is 110A.

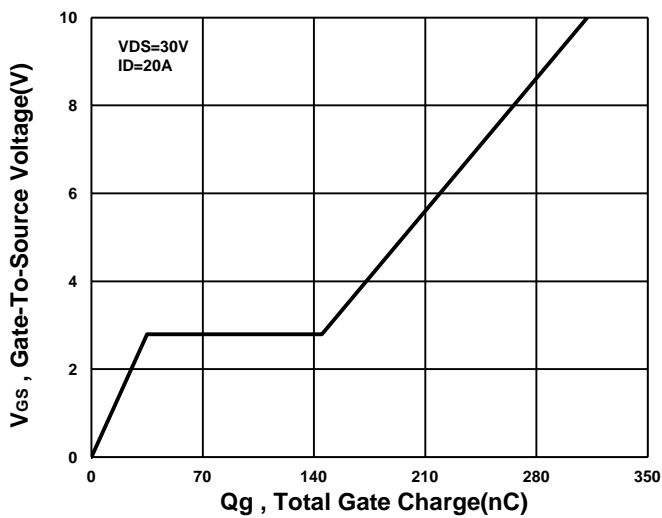
Output Characteristics



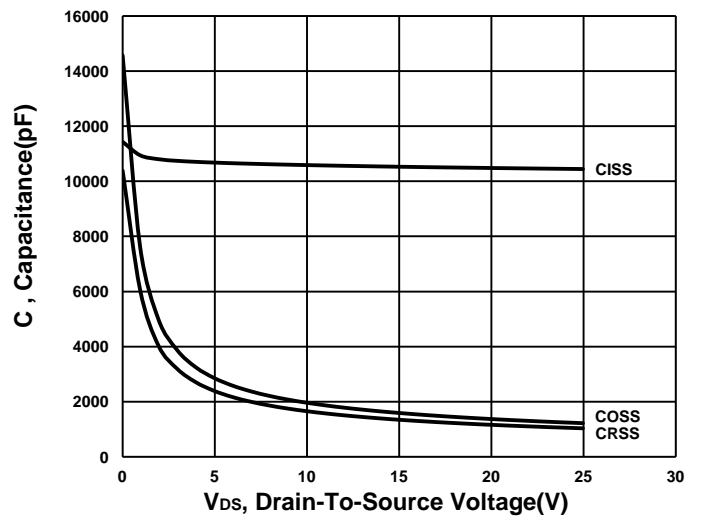
Transfer Characteristics



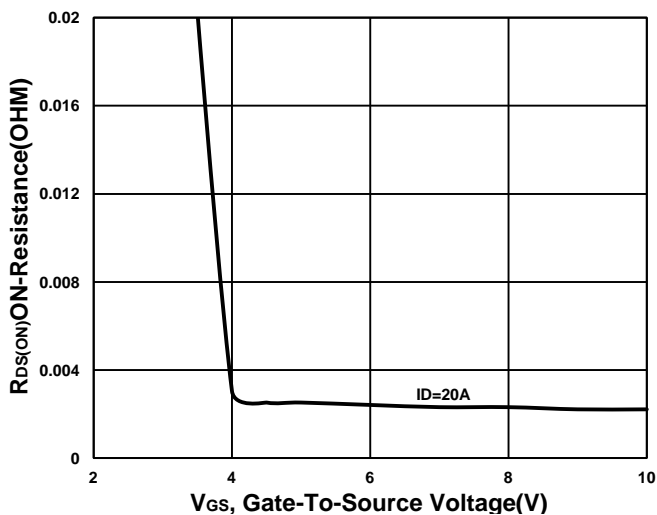
Gate charge Characteristics



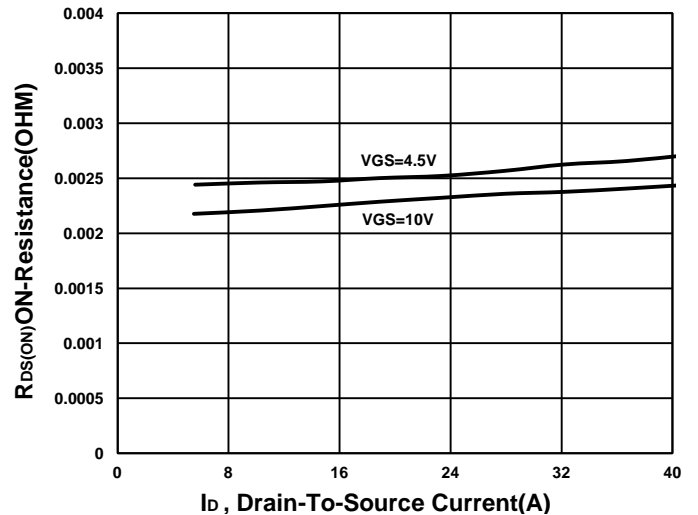
Capacitance Characteristic



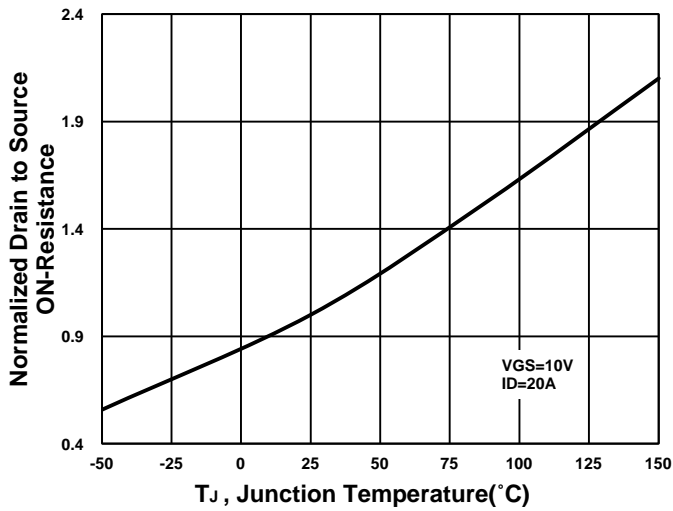
On-Resistance VS Gate-To-Source



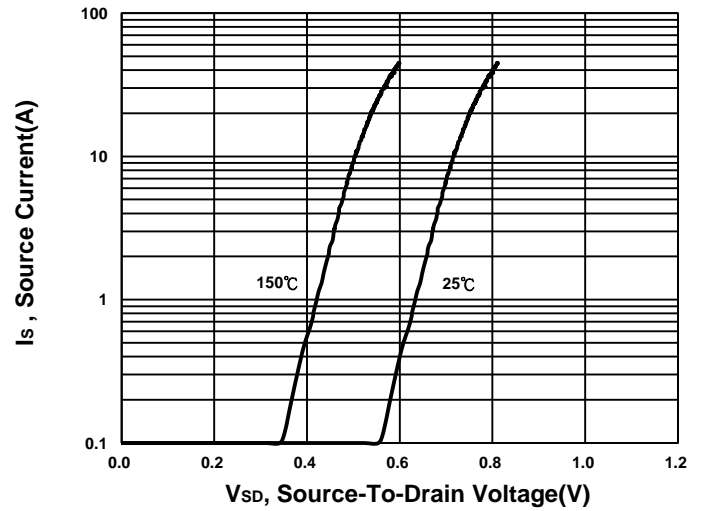
On-Resistance VS Drain Current



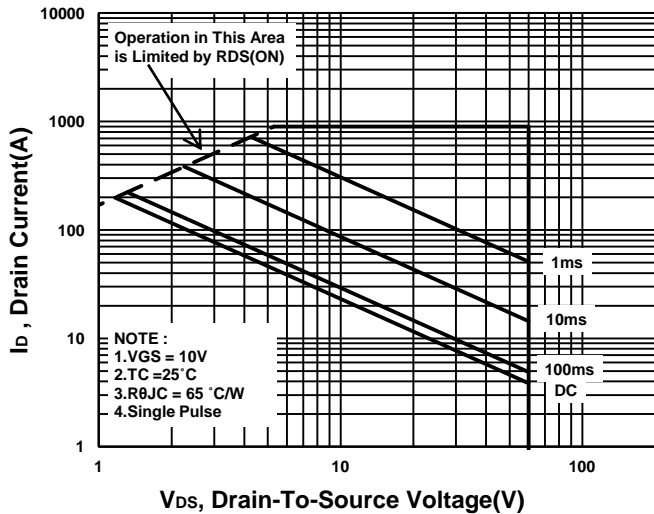
On-Resistance VS Temperature



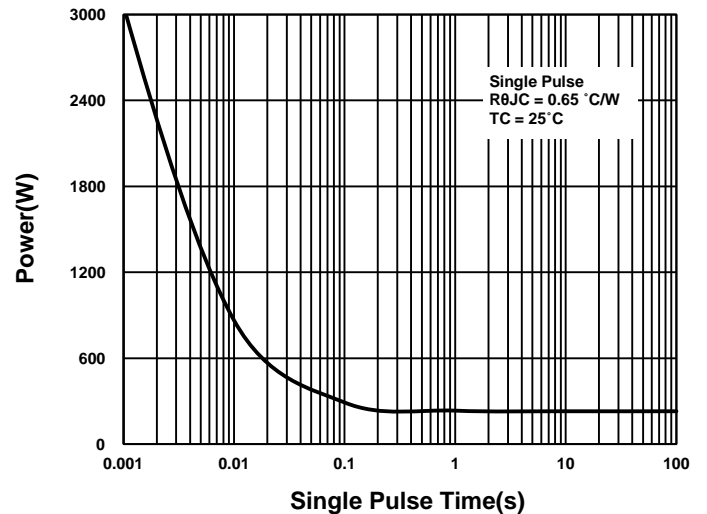
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

