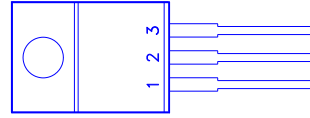
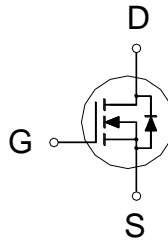




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	3.4m Ω	162A



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	162	A
	$T_C = 100\text{ }^\circ\text{C}$		102	
Pulsed Drain Current ^{1,2}		I_{DM}	300	
Avalanche Current		I_{AS}	119	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	708	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	178	W
	$T_C = 100\text{ }^\circ\text{C}$		71	
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	$R_{\theta JC}$		0.7	$^\circ\text{C} / \text{W}$
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	

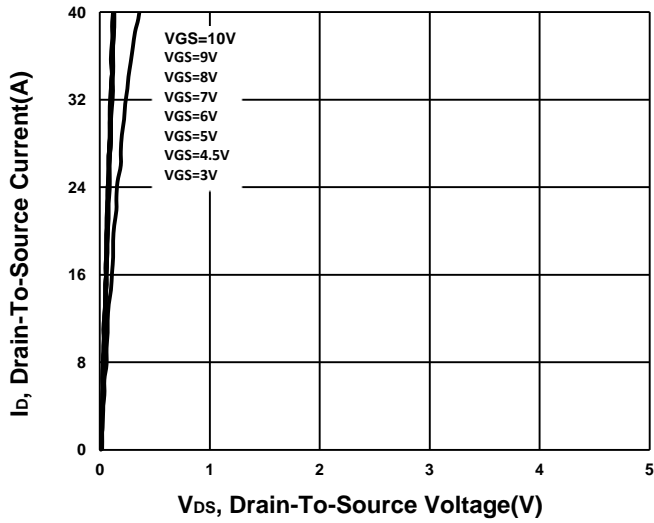
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 20A$		3	4.5	mΩ
		$V_{GS} = 10V, I_D = 20A$		2.6	3.4	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 10V, I_D = 20A$		80		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		5825		pF
Output Capacitance	C_{oss}			1162		
Reverse Transfer Capacitance	C_{rss}			385		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.4		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 30V, V_{GS} = 10V, I_D = 20A$		124		nC
	$Q_{g(VGS=4.5V)}$			67		
Gate-Source Charge ²	Q_{gs}			15		
Gate-Drain Charge ²	Q_{gd}			35		
Turn-On Delay Time ²	$t_{d(on)}$		$V_{DD} = 60V, I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$		25	
Rise Time ²	t_r			65		
Turn-Off Delay Time ²	$t_{d(off)}$			60		
Fall Time ²	t_f			62		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current ³	I_S				172	A
Forward Voltage ¹	V_{SD}	$I_F = 20A, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	t_{rr}	$I_F = 20A, di_F/dt = 100A / \mu S$		60		nS
Reverse Recovery Charge	Q_{rr}			127		nC

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

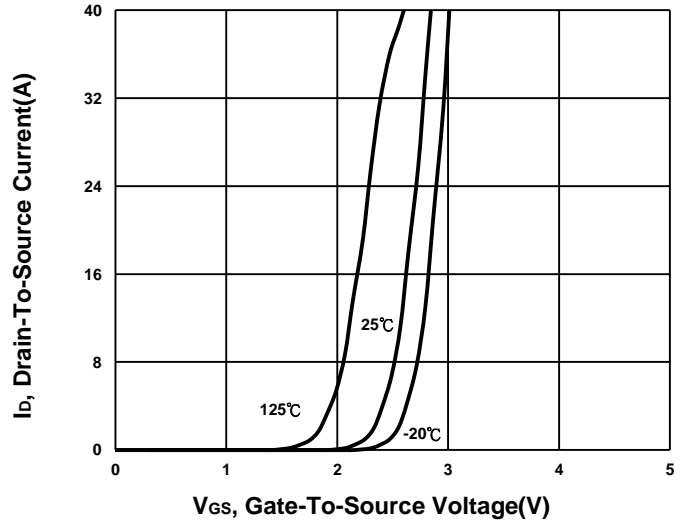
²Independent of operating temperature.

³Package limitation current is 110A.

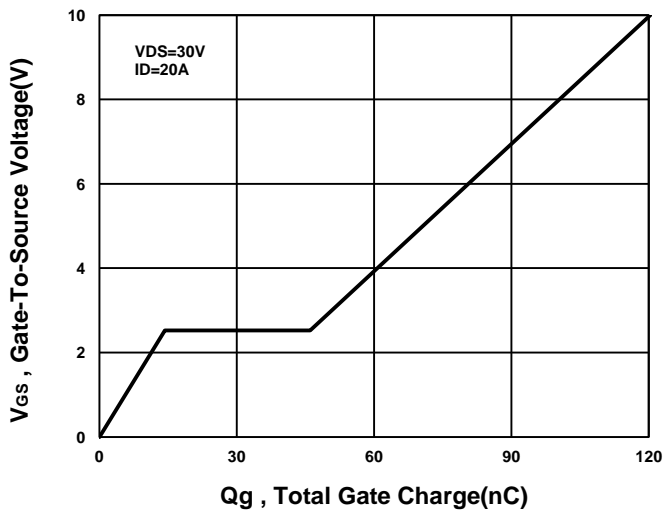
Output Characteristics



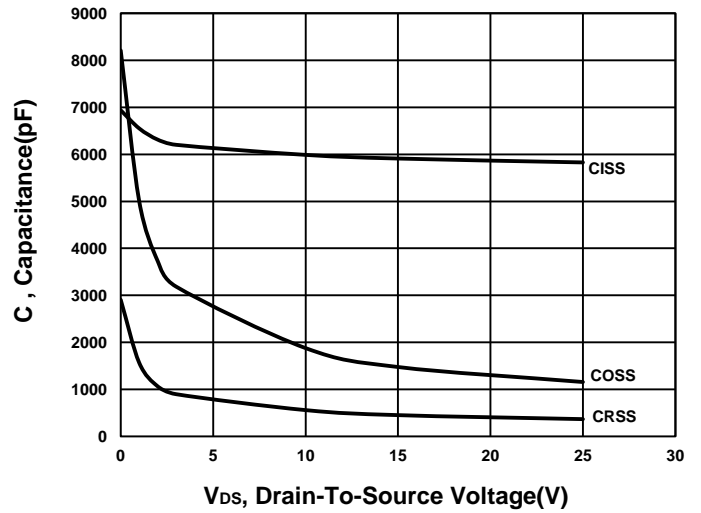
Transfer Characteristics



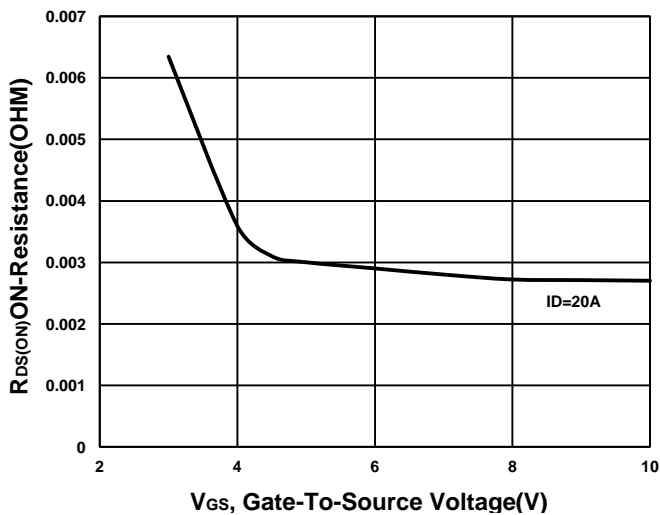
Gate charge Characteristics



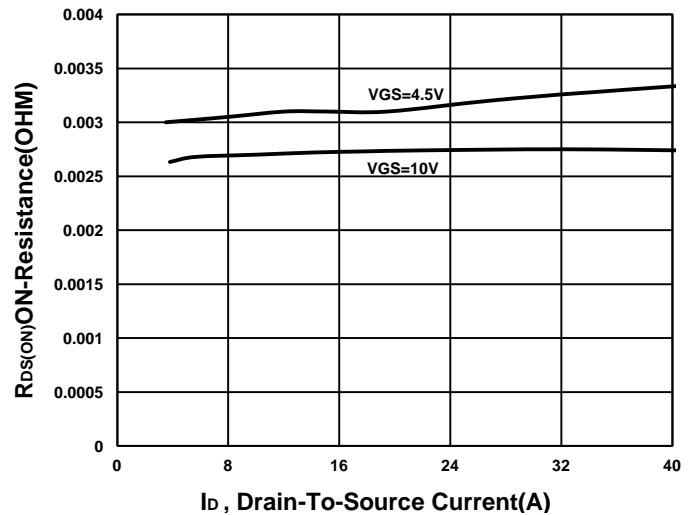
Capacitance Characteristic



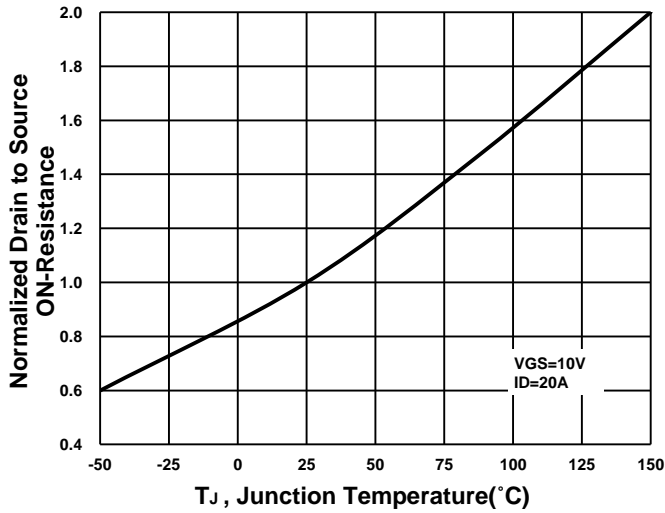
On-Resistance VS Gate-To-Source



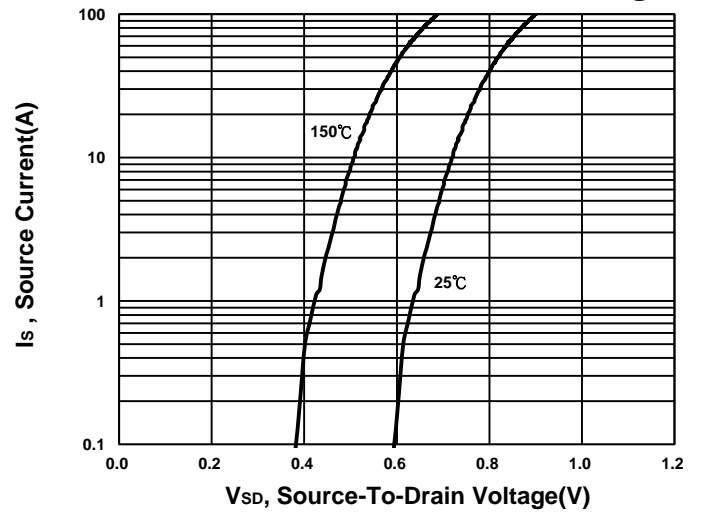
On-Resistance VS Drain Current



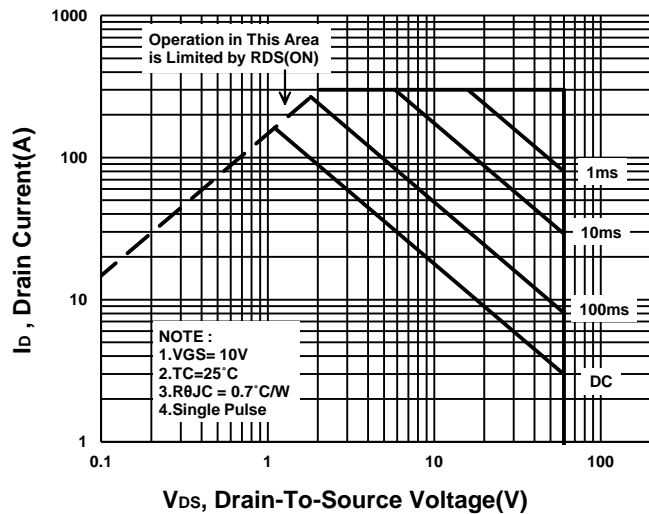
On-Resistance VS Temperature



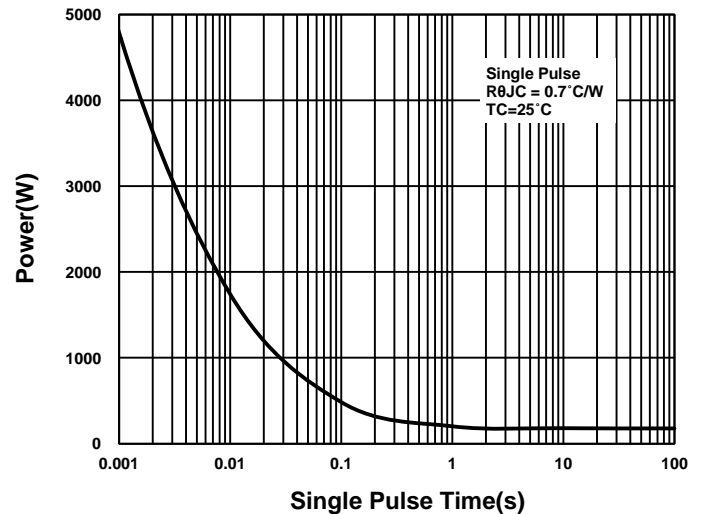
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

