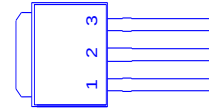
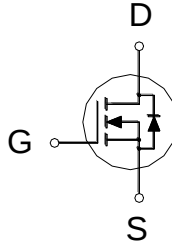




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	9.8m Ω	64A



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
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	64	A
	$T_C = 100\text{ }^{\circ}\text{C}$		45	
Pulsed Drain Current ¹		I_{DM}	198	
Avalanche Current		I_{AS}	27	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	36.4	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	88	W
	$T_C = 100\text{ }^{\circ}\text{C}$		44	
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	$R_{\theta JC}$		1.7	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

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

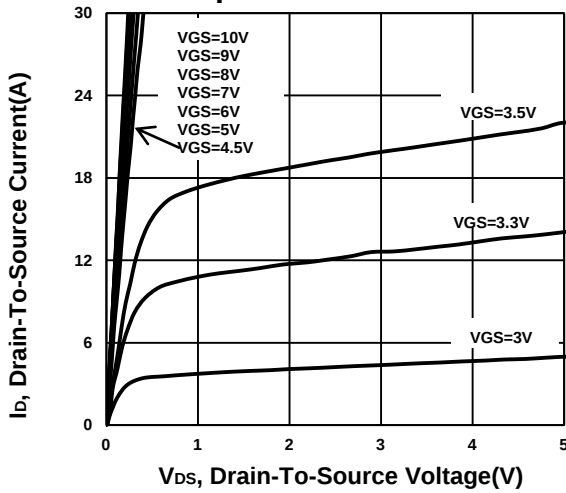
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	2	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V$			1	μA
		$V_{DS} = 60V, V_{GS} = 0V, T_J = 125^\circ C$			100	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 20A$		13	16	$m\Omega$
		$V_{GS} = 10V, I_D = 20A$		7.5	9.8	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 20A$		40		S

DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 30V, f = 1MHz		1138		pF
Output Capacitance	C _{oss}			565		
Reverse Transfer Capacitance	C _{rss}			23		
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		17.5		nC
	Q _g (V _{GS} =4.5V)			9.3		
Gate-Source Charge ²	Q _{gs}			3.6		
Gate-Drain Charge ²	Q _{gd}			4		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 30V I _D ≅ 20A, V _{GS} = 10V, R _{GEN} =6Ω		9.2		nS
Rise Time ²	t _r			18		
Turn-Off Delay Time ²	t _{d(off)}			23		
Fall Time ²	t _f			32		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current	I _S				64	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 / μS		33		nS
Reverse Recovery Charge	Q _{rr}			21		nC

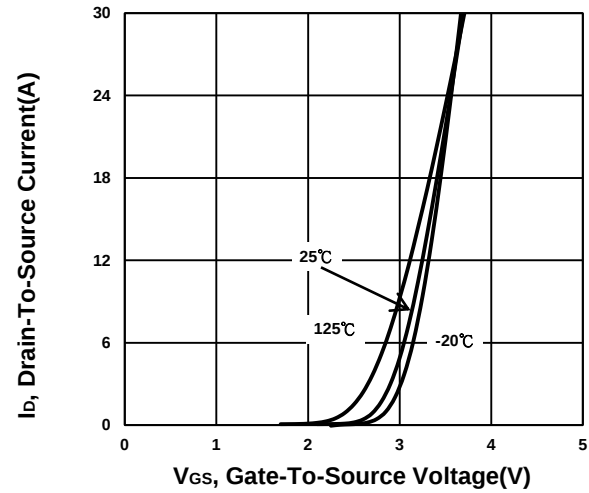
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

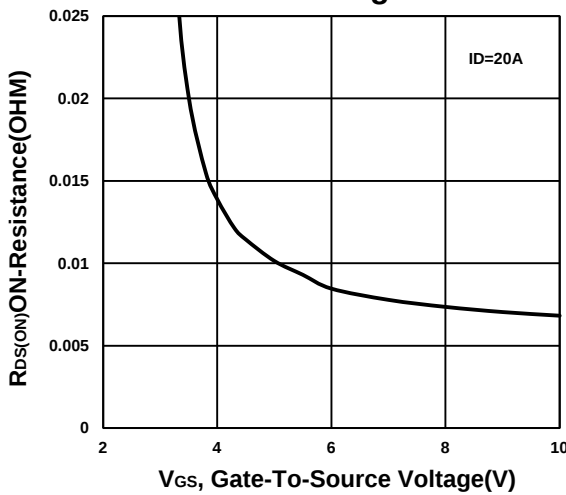
Output Characteristics



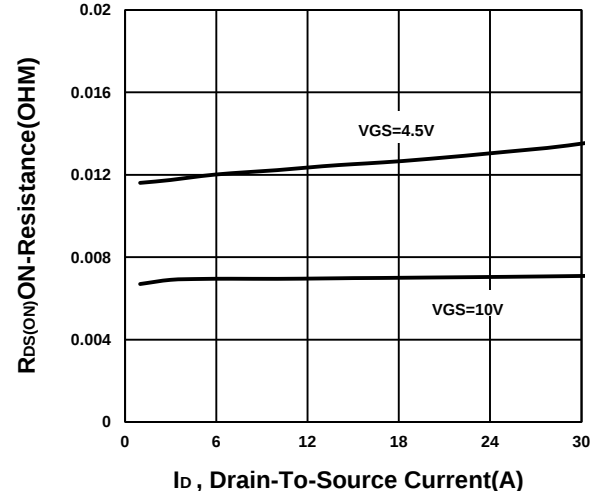
Transfer Characteristics



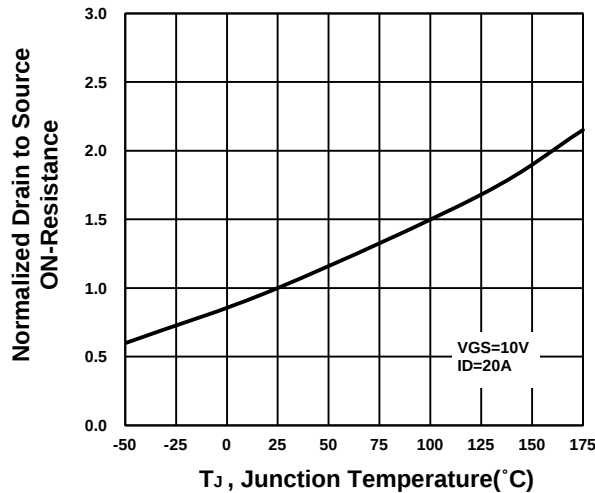
On-Resistance VS Gate-To-Source Voltage



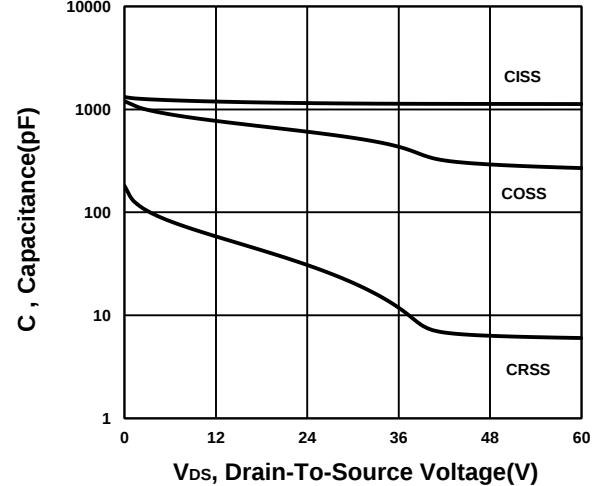
On-Resistance VS Drain Current



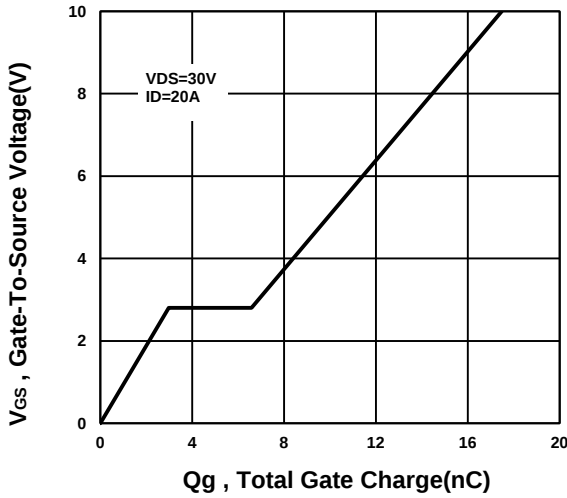
On-Resistance VS Temperature



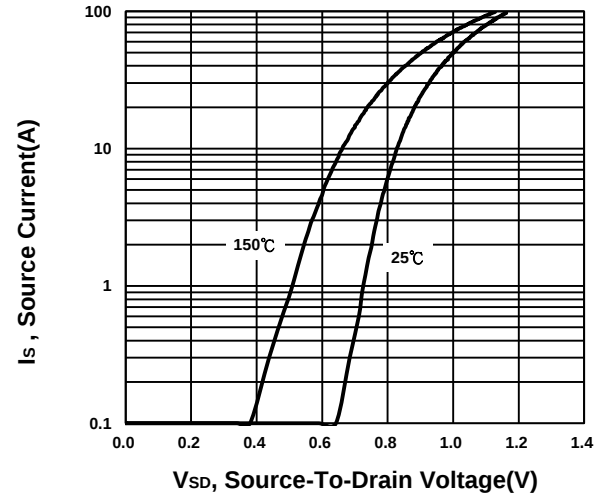
Capacitance Characteristic



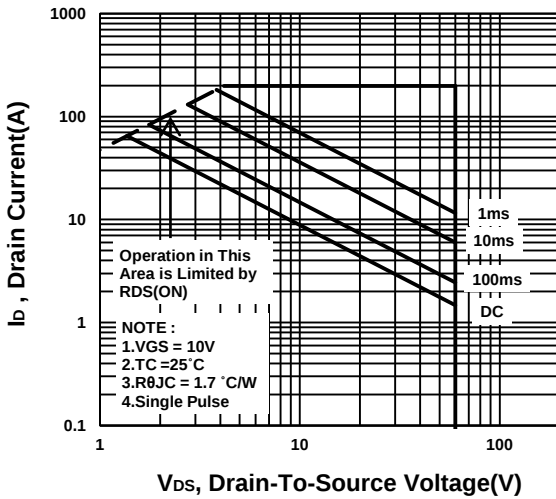
Gate charge Characteristics



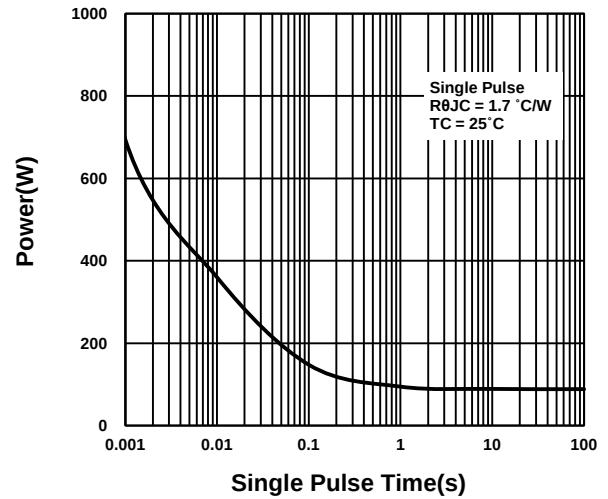
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

