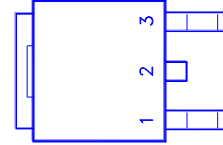
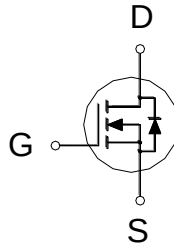




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	85m Ω	15A



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}	100	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	T _C = 25 °C	I _D	15	A
	T _C = 100 °C		9	
Pulsed Drain Current ¹		I _{DM}	35	
Avalanche Current		I _{AS}	12	
Avalanche Energy	L = 0.1mH	E _{AS}	7.2	mJ
MOSFET dV/dt Ruggedness		dV/dt	16.2	V/nS
Peak Diode Recovery dV/dt ²			4.1	
Power Dissipation	T _C = 25 °C	P _D	46	W
	T _C = 100 °C		18	
Junction & Storage Temperature Range		T _J , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2.7	$^{\circ}\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

² $I_D=15\text{A}$, di/dt=100A/uS, VDD<BVdss, Starting $T_J=25^{\circ}\text{C}$

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

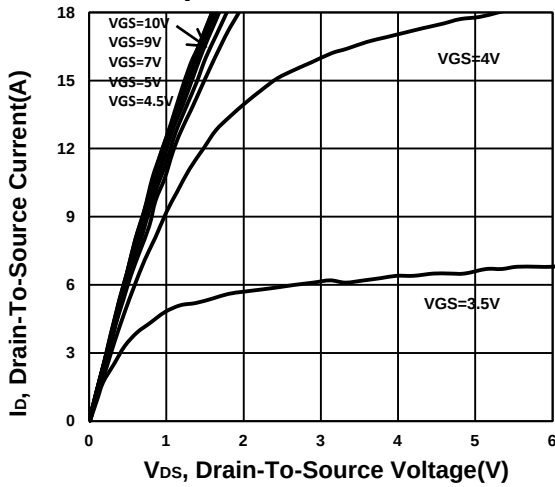
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.8	2.3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 125^{\circ}C$			10	

On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 5V, V _{GS} = 10V	35			A
Drain-Source On-State Resistance ₁	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 10A		67	95	mΩ
		V _{GS} = 10V , I _D = 15A		61	85	
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 15A		25		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		527		pF
Output Capacitance	C _{Oss}			68		
Reverse Transfer Capacitance	C _{rss}			37		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		1.5		Ω
Total Gate Charge ²	Q _g	V _{GS} = 10 V , V _{DS} = 0.5V _{(BR)DSS} , I _D = 15A		18.5		nC
Gate-Source Charge ²	Q _{gs}			2.7		
Gate-Drain Charge ²	Q _{gd}			5.1		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 40V I _D ≅ 15A, V _{GS} = 10V, R _{GEN} =6Ω		11		nS
Rise Time ²	t _r			48		
Turn-Off Delay Time ²	t _{d(off)}			80		
Fall Time ²	t _f			73		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current	I _S				15	A
Forward Voltage ¹	V _{SD}	I _F = 15A, V _{GS} = 0V			1.1	V
Reverse Recovery Time	t _{rr}	I _F = 15A, dI _F /dt = 100A / μS		33		nS
Reverse Recovery Charge	Q _{rr}			35		nC

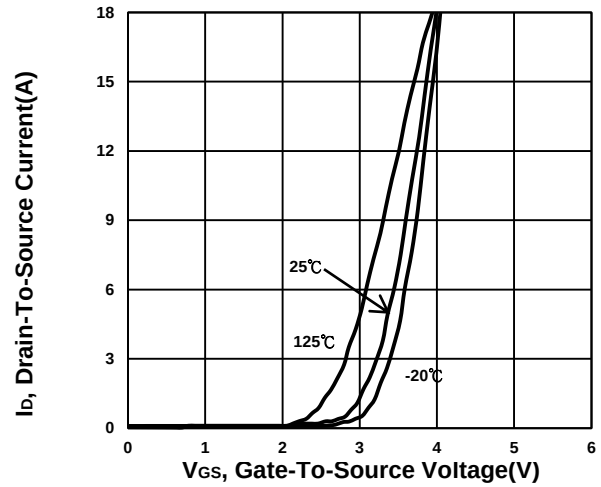
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

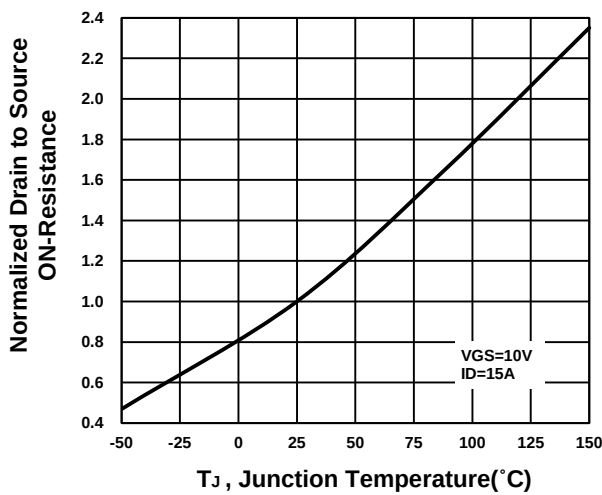
Output Characteristics



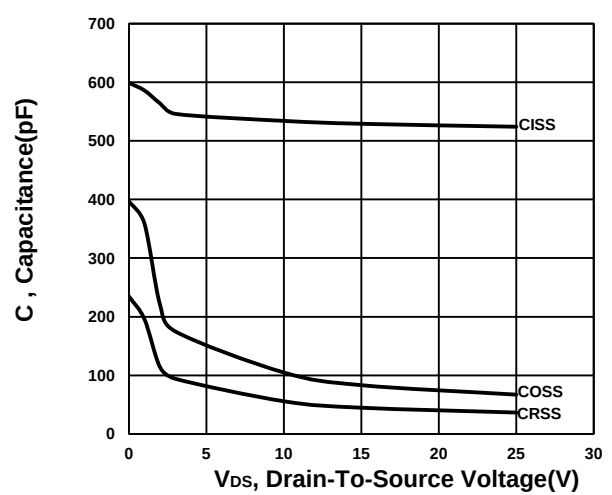
Transfer Characteristics



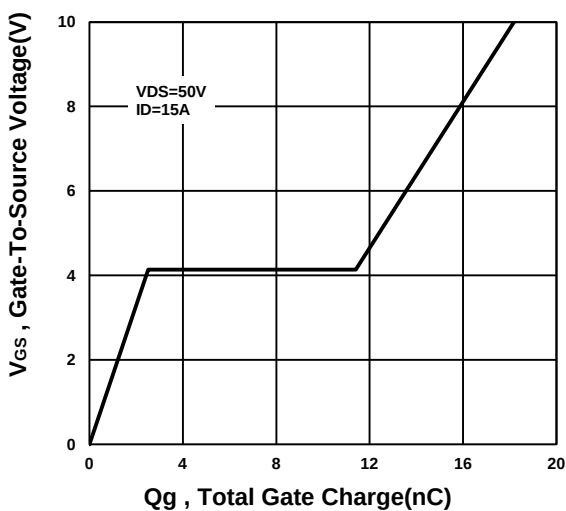
On-Resistance VS Temperature



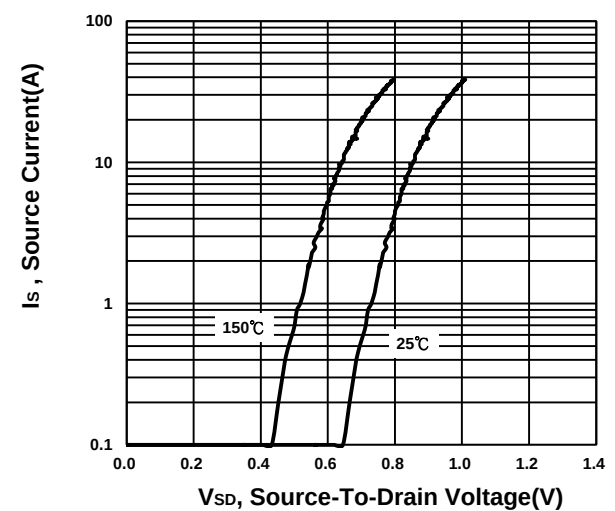
Capacitance Characteristic



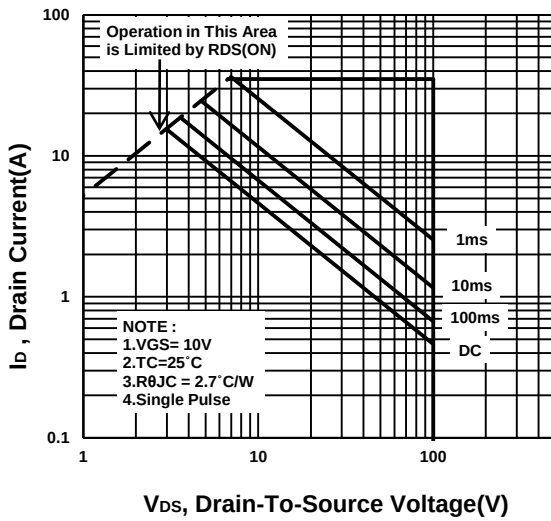
Gate charge Characteristics



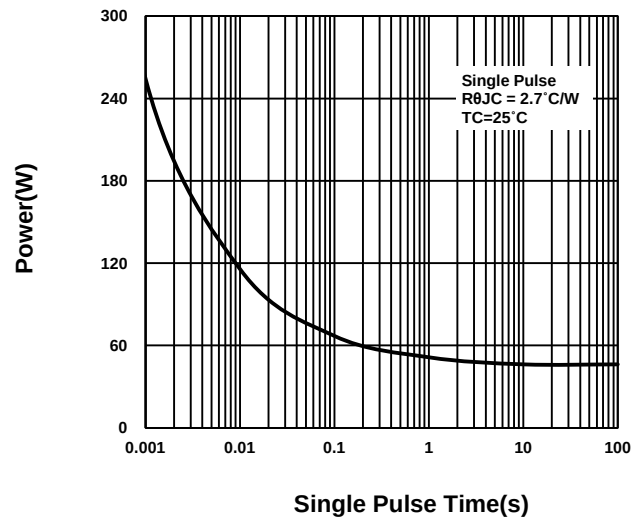
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

