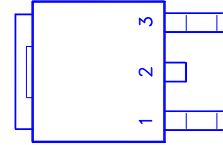
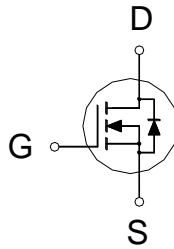




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	45mΩ	16A



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

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_C = 25\text{ °C}$	I_D	16	A
	$T_C = 100\text{ °C}$		10	
Pulsed Drain Current ¹		I_{DM}	35	
Avalanche Current		I_{AS}	10	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	5	mJ
Power Dissipation	$T_C = 25\text{ °C}$	P_D	20	W
	$T_C = 100\text{ °C}$		8	
Junction & Storage Temperature Range		T_J, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		6	°C / W
Junction-to-Ambient	$R_{\theta JA}$		62.5	

¹Pulse width limited by maximum junction temperature.

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

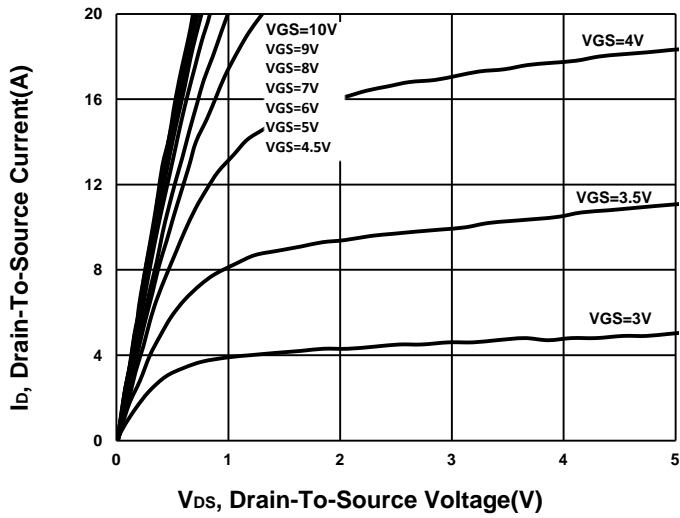
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.1	1.3	2.1	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 125\text{ °C}$			10	

Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 12A$		46	80	m Ω
		$V_{GS} = 10V, I_D = 12A$		31	45	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 12A$		12		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 12.5V, f = 1MHz$		343		pF
Output Capacitance	C_{oss}			56		
Reverse Transfer Capacitance	C_{rss}			42		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		2.2		Ω
Total Gate Charge ²	Q_g	$V_{GS} = 10V, V_{DS} = 12.5V, I_D = 12A$		7.4		nC
Gate-Source Charge ²	Q_{gs}			1.1		
Gate-Drain Charge ²	Q_{gd}			2.3		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 12.5V, I_D \cong 12A, V_{GS} = 10V, R_{GEN} = 6\Omega$		15		nS
Rise Time ²	t_r			30		
Turn-Off Delay Time ²	$t_{d(off)}$			39		
Fall Time ²	t_f			11		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				13	A
Forward Voltage ¹	V_{SD}	$I_F = 12A, V_{GS} = 0V$			1.5	V
Reverse Recovery Time	t_{rr}	$I_F = 12A, di_F/dt = 100A / \mu S$		12.6		nS
Reverse Recovery Charge	Q_{rr}			4.2		nC

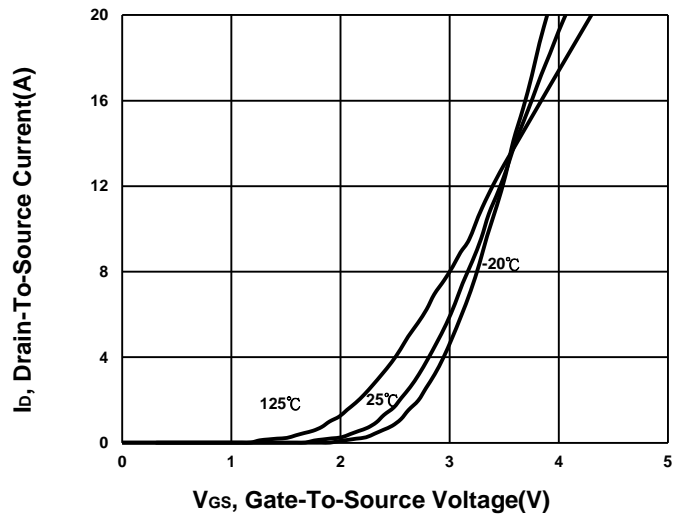
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

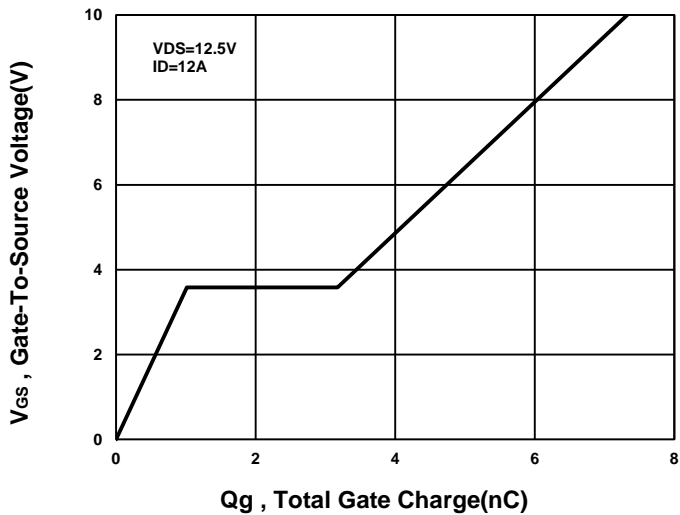
Output Characteristics



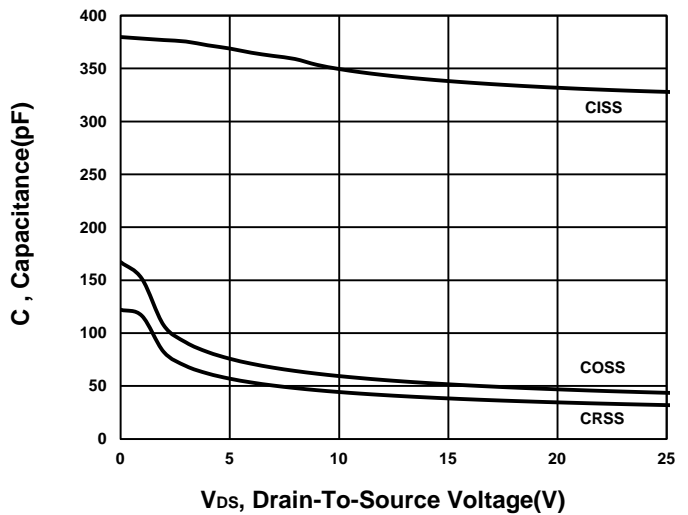
Transfer Characteristics



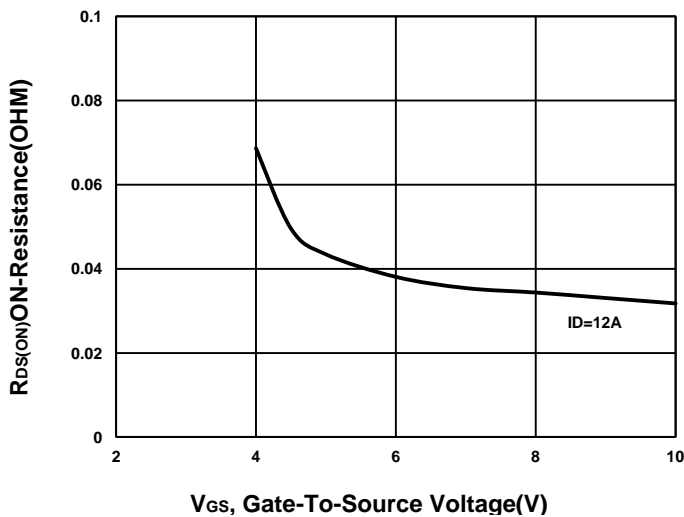
Gate charge Characteristics



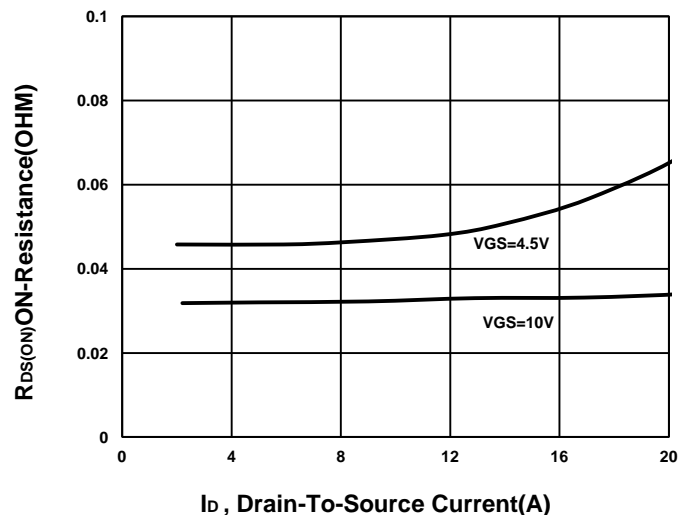
Capacitance Characteristic



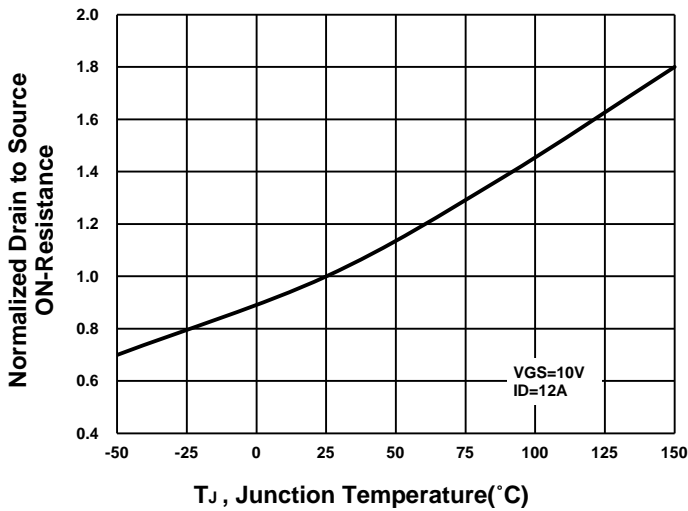
On-Resistance VS Gate-To-Source



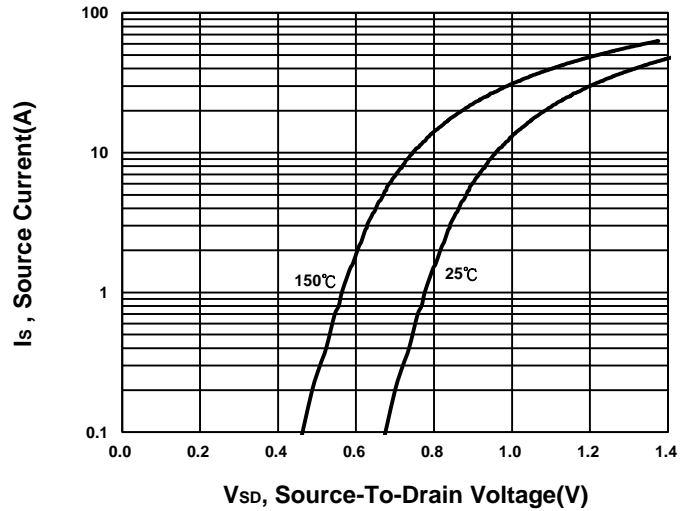
On-Resistance VS Drain Current



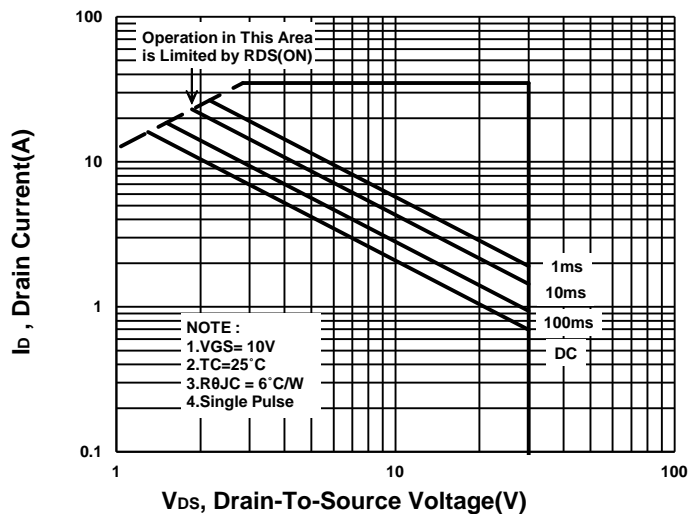
On-Resistance VS Temperature



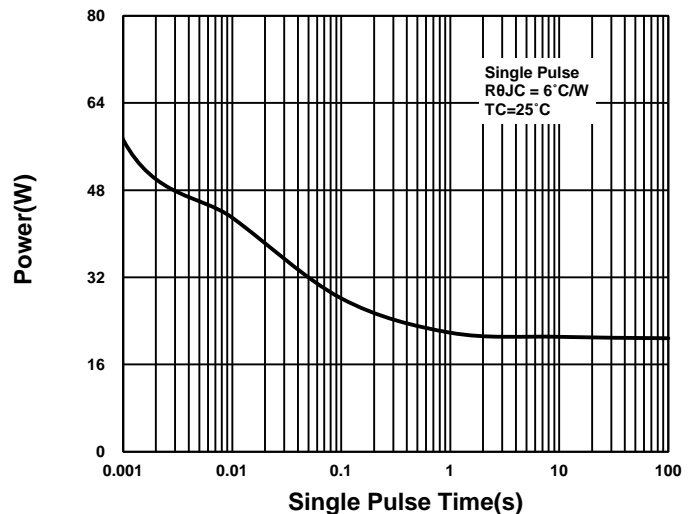
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

