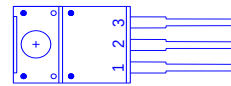
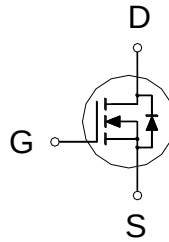




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
600V	670m Ω	12A



1. GATE
2. DRAIN
3. SOURCE

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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	600	V
Gate-Source Voltage		V_{GS}	± 30	V
Continuous Drain Current ²	$T_C = 25^\circ\text{C}$	I_D	12	A
	$T_C = 100^\circ\text{C}$		7.6	
Pulsed Drain Current ¹		I_{DM}	48	
Avalanche Current ³		I_{AS}	7.3	
Avalanche Energy ³		EAS	264	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	48	W
	$T_C = 100^\circ\text{C}$		19	
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	$R_{\theta JC}$		2.6	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Ensure that the channel temperature does not exceed 150°C .

³ $V_{DD} = 50\text{V}$, $L = 10\text{mH}$, starting $T_J = 25^\circ\text{C}$.

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$, 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 = 250μA	600			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2	2.8	4	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±30V			±100	nA
Gate Voltage Drain Current	I _{DSS}	V _{DS} = 600V, V _{GS} = 0V , T _C = 25 °C			1	μA
		V _{DS} = 480V, V _{GS} = 0V , T _C = 100 °C			10	

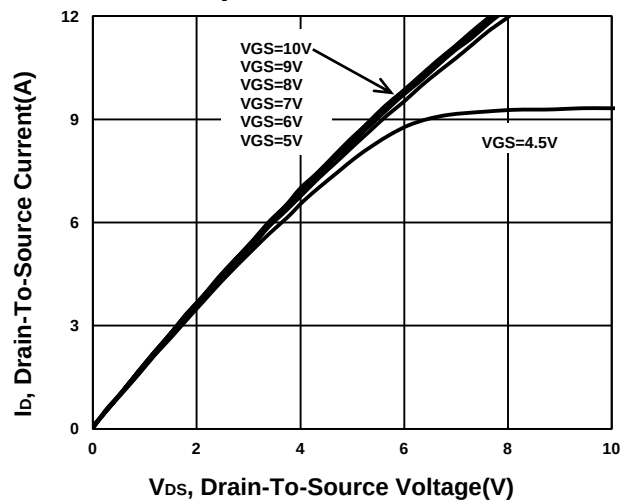
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 6A		518	670	mΩ
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 6A		15		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		2023		pF
Output Capacitance	C _{OSS}			172		
Reverse Transfer Capacitance	C _{rss}			9		
Total Gate Charge ²	Q _g	V _{DD} = 480V, I _D =12A, V _{GS} = 10V		44		nC
Gate-Source Charge ²	Q _{gs}			9		
Gate-Drain Charge ²	Q _{gd}			14		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 300V, I _D =12A, R _G = 25Ω		41		nS
Rise Time ²	t _r			54		
Turn-Off Delay Time ²	t _{d(off)}			169		
Fall Time ²	t _f			93		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current ³	I _S				12	A
Forward Voltage ¹	V _{SD}	I _F =12A, V _{GS} = 0V			1	V
Reverse Recovery Time	t _{rr}	I _F =12A, dI _F /dt = 100A / μS		449		nS
Reverse Recovery Charge	Q _{rr}			6		uC

¹Pulse test : Pulse Width $\leq 380 \mu sec$, Duty Cycle $\leq 2\%$.

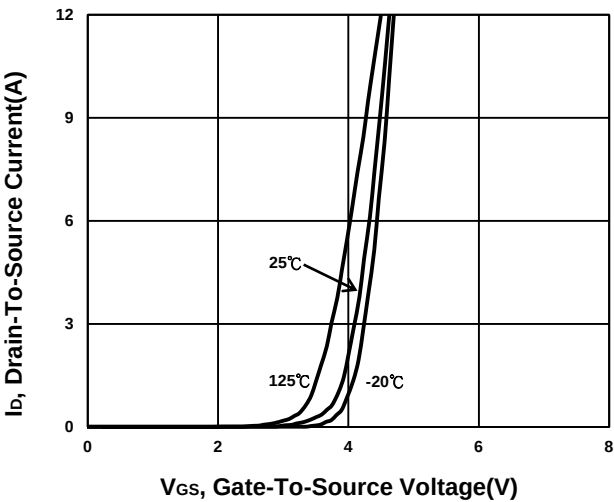
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

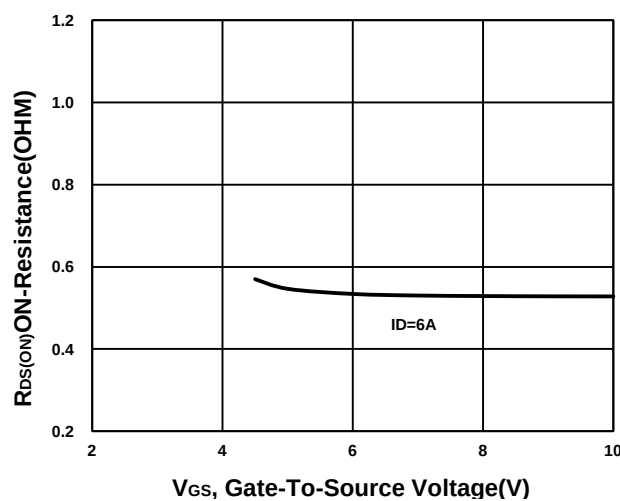
Output Characteristics



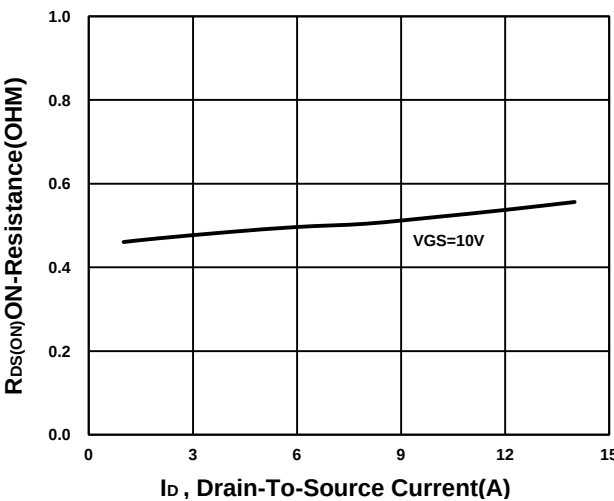
Transfer Characteristics



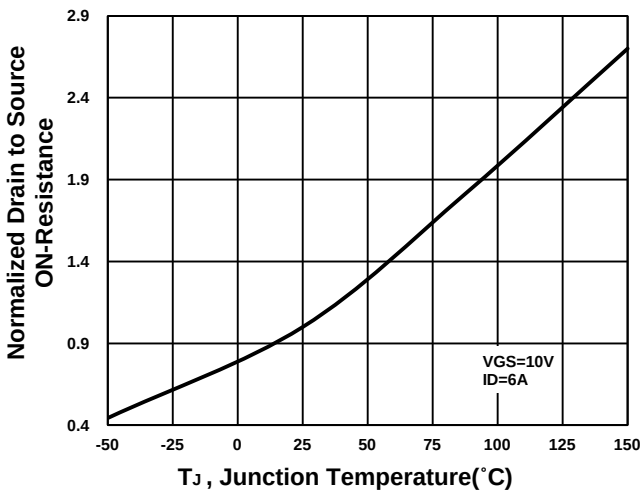
On-Resistance VS Gate-To-Source



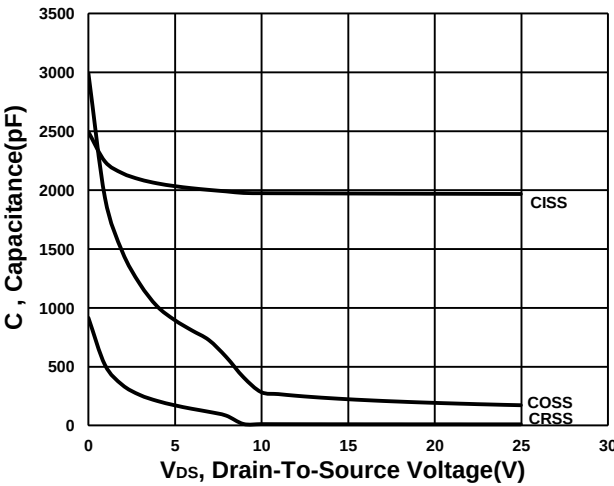
On-Resistance VS Drain Current



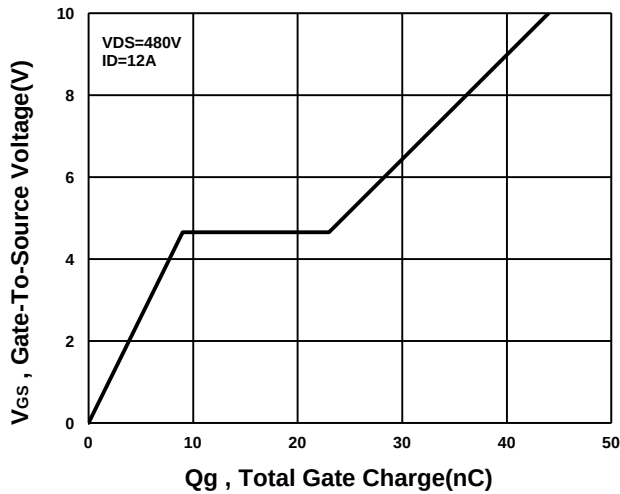
On-Resistance VS Temperature



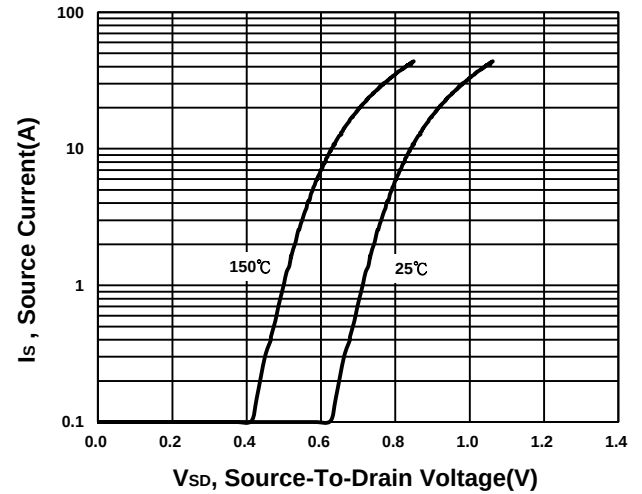
Capacitance Characteristic



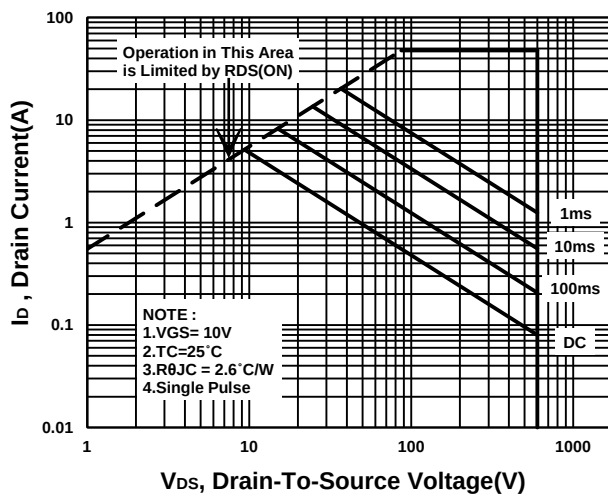
Gate charge Characteristics



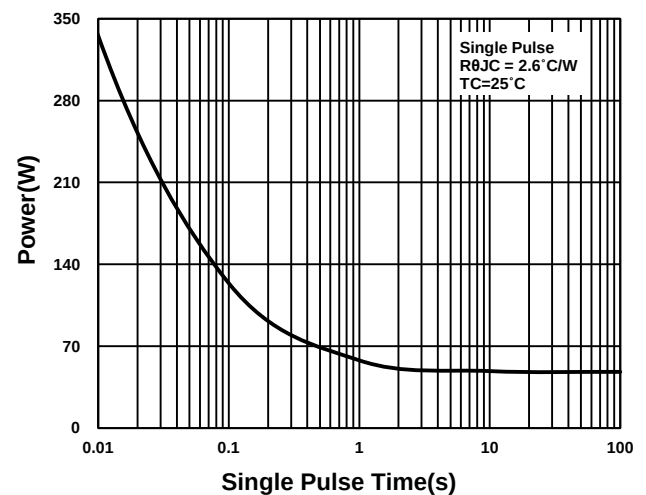
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

