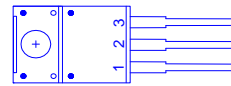
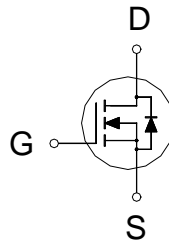


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
600V	$1.05\Omega$	8A



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		$V_{GS}$	$\pm 30$	V
Continuous Drain Current <sup>2</sup>	$T_C = 25^\circ\text{C}$	$I_D$	8	A
	$T_C = 100^\circ\text{C}$		5	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	25	
Avalanche Current <sup>3</sup>		$I_{AS}$	3.5	
Avalanche Energy <sup>3</sup>		$E_{AS}$	61.2	mJ
Power Dissipation	$T_C = 25^\circ\text{C}$	$P_D$	36	W
	$T_C = 100^\circ\text{C}$		14	
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	$R_{\theta JC}$		3.4	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^\circ\text{C} / \text{W}$

<sup>1</sup>Pulse width limited by maximum junction temperature.

<sup>2</sup>Ensure that the channel temperature does not exceed  $150^\circ\text{C}$ .

<sup>3</sup> $V_{DD} = 50\text{V}$ ,  $L = 10\text{mH}$ , 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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	600			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	2.7	4	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 30V$			$\pm 100$	nA

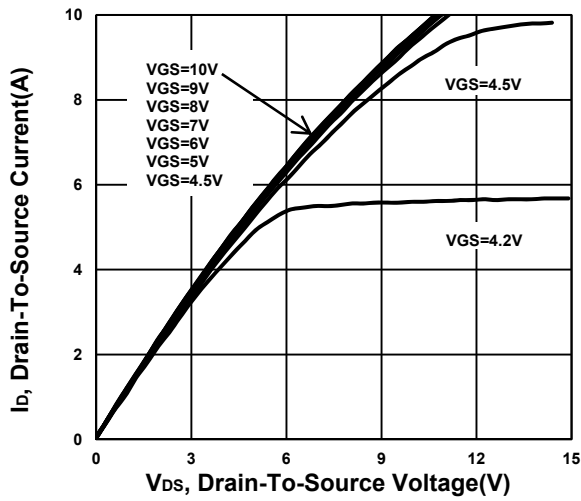
Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 600V, V <sub>GS</sub> = 0V , T <sub>C</sub> = 25 °C			1	μA
		V <sub>DS</sub> = 480V, V <sub>GS</sub> = 0V , T <sub>C</sub> = 100 °C			10	
Drain-Source On-State Resistance <sup>1</sup>	R <sub>DS(ON)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 4A		0.83	1.05	Ω
Forward Transconductance <sup>1</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 4A		10.5		S
DYNAMIC						
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> = 0V, V <sub>DS</sub> = 25V, f = 1MHz		1270		pF
Output Capacitance	C <sub>oss</sub>			114		
Reverse Transfer Capacitance	C <sub>rss</sub>			10		
Total Gate Charge <sup>2</sup>	Q <sub>g</sub>	V <sub>DD</sub> = 480V, I <sub>D</sub> = 8A, V <sub>GS</sub> = 10V		29		nC
Gate-Source Charge <sup>2</sup>	Q <sub>gs</sub>			5.1		
Gate-Drain Charge <sup>2</sup>	Q <sub>gd</sub>			8.4		
Turn-On Delay Time <sup>2</sup>	t <sub>d(on)</sub>	V <sub>DD</sub> = 300V, I <sub>D</sub> = 8A, R <sub>G</sub> = 25 Ω		23		nS
Rise Time <sup>2</sup>	t <sub>r</sub>			31		
Turn-Off Delay Time <sup>2</sup>	t <sub>d(off)</sub>			115		
Fall Time <sup>2</sup>	t <sub>f</sub>			50		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T <sub>J</sub> = 25 °C)						
Continuous Current <sup>3</sup>	I <sub>S</sub>				8	A
Forward Voltage <sup>1</sup>	V <sub>SD</sub>	I <sub>F</sub> = 8A, V <sub>GS</sub> = 0V			1	V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 8A, dI <sub>F</sub> /dt = 100A / μS		390		nS
Reverse Recovery Charge	Q <sub>rr</sub>			3.9		uC

<sup>1</sup>Pulse test : Pulse Width  $\leq 380\text{ }\mu sec$ , Duty Cycle  $\leq 2\%$ .

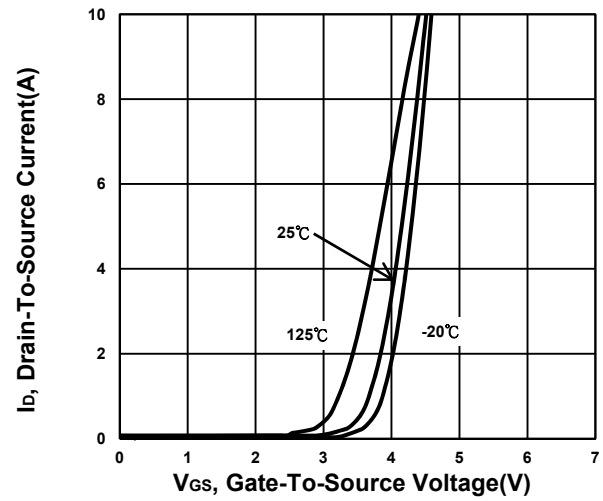
<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Pulse width limited by maximum junction temperature.

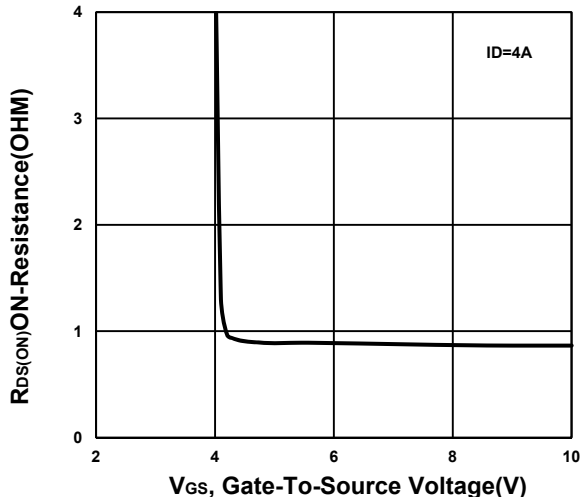
**Output Characteristics**



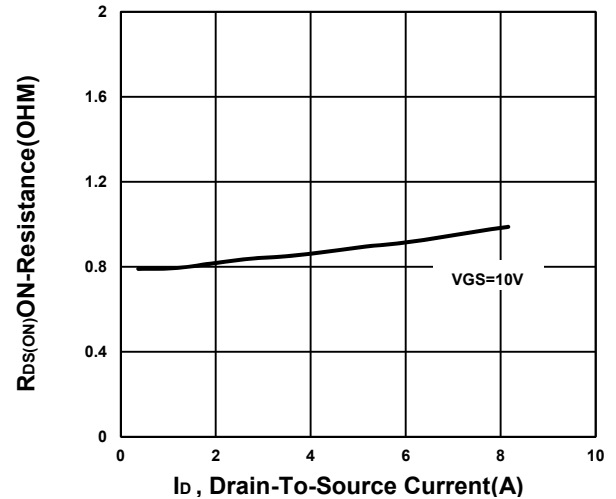
**Transfer Characteristics**



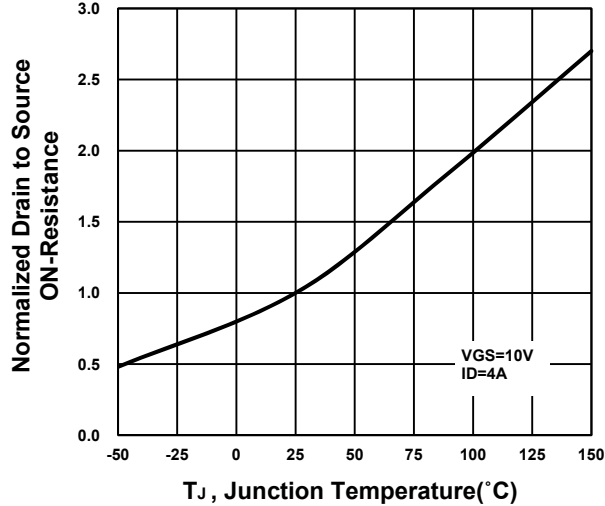
**On-Resistance VS Gate-To-Source**



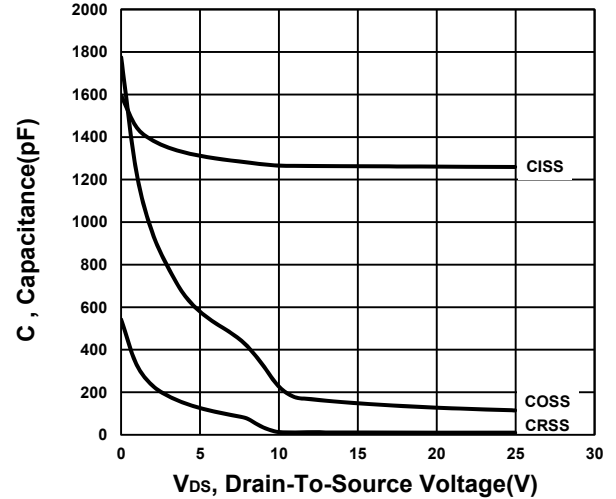
**On-Resistance VS Drain Current**



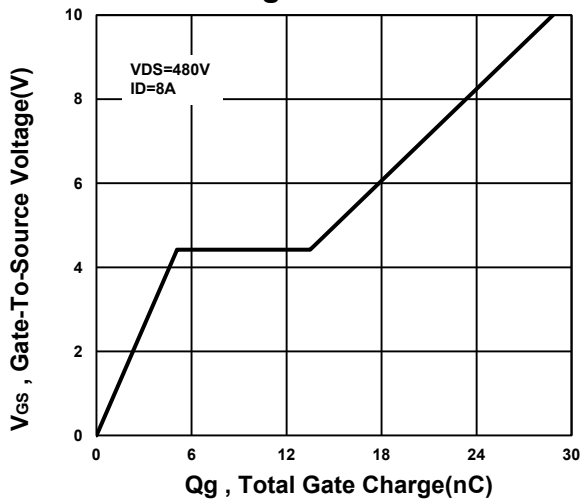
**On-Resistance VS Temperature**



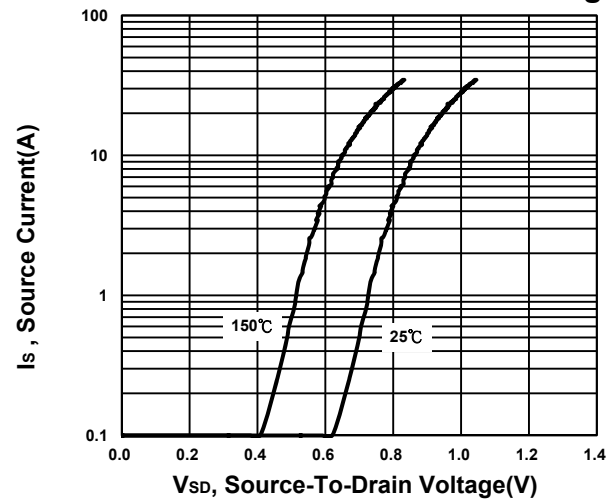
**Capacitance Characteristic**



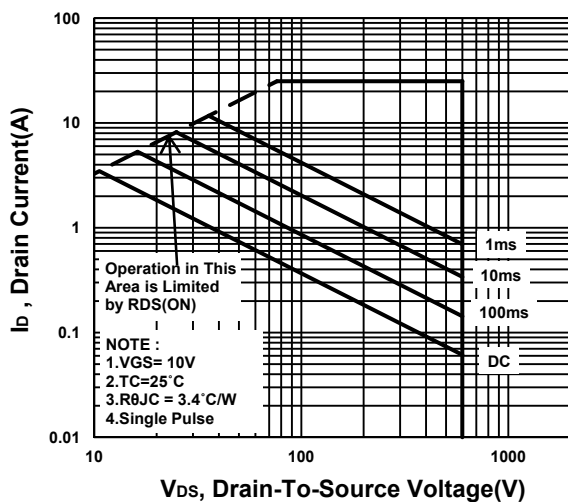
**Gate charge Characteristics**



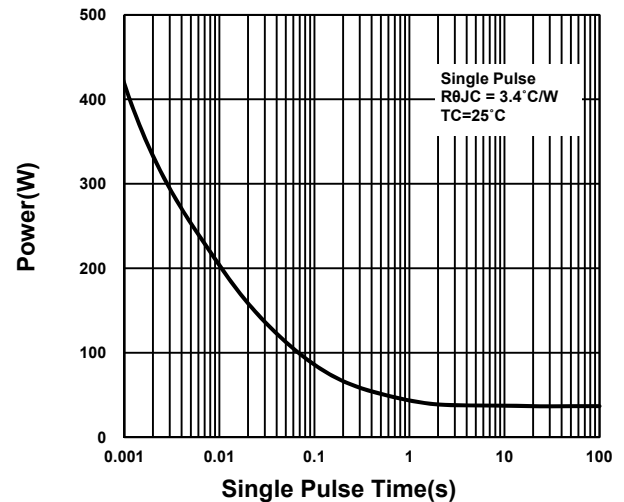
**Source-Drain Diode Forward Voltage**



**Safe Operating Area**



**Single Pulse Maximum Power Dissipation**



**Transient Thermal Response Curve**

