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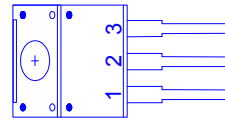
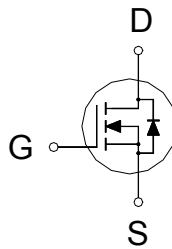
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PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	8.5mΩ	57A



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

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

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Gate-Source Voltage	V_{GS}	±25	V
Continuous Drain Current	I_D	$T_C = 25\text{ °C}$	57
		$T_C = 100\text{ °C}$	36
Pulsed Drain Current ¹	I_{DM}	220	A
Avalanche Current	I_{AS}	64	
Avalanche Energy	E_{AS}	202	mJ
Power Dissipation	P_D	$T_C = 25\text{ °C}$	50
		$T_C = 100\text{ °C}$	20
Operating Junction & Storage Temperature Range	T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2.5	°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)

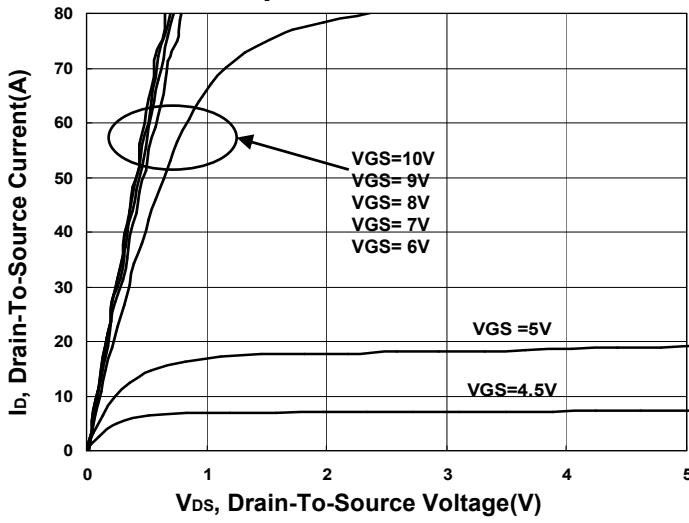
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	2.5	4	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±250	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
		$V_{DS} = 40V, V_{GS} = 0V, T_J = 125\text{ °C}$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	220			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 45A$		7.8	8.5	mΩ
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 45A$		100		S

DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		4380		pF
Output Capacitance	C_{oss}			462		
Reverse Transfer Capacitance	C_{rss}			298		
Total Gate Charge ²	Q_g	$V_{DS} = 30V, V_{GS} = 10V,$ $I_D = 45A$		78		nC
Gate-Source Charge ²	Q_{gs}			23		
Gate-Drain Charge ²	Q_{gd}			25		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 30V,$ $I_D \cong 45A, V_{GS} = 10V, R_{GS} = 6\Omega$		65		nS
Rise Time ²	t_r			350		
Turn-Off Delay Time ²	$t_{d(off)}$			268		
Fall Time ²	t_f			260		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Continuous Current	I_S				38	A
Forward Voltage ¹	V_{SD}	$I_F = 45A, V_{GS} = 0V$			1.3	V
Reverse Recovery Time	t_{rr}	$I_F = 45A, di_F/dt = 100A / \mu S$		70		nS
Reverse Recovery Charge	Q_{rr}			132		nC

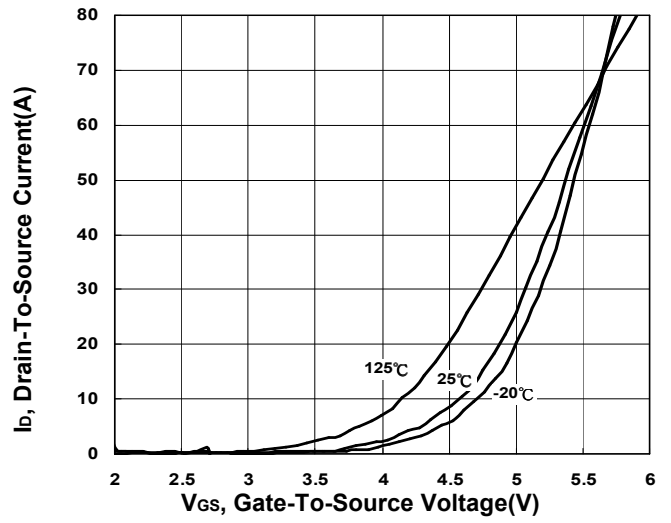
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

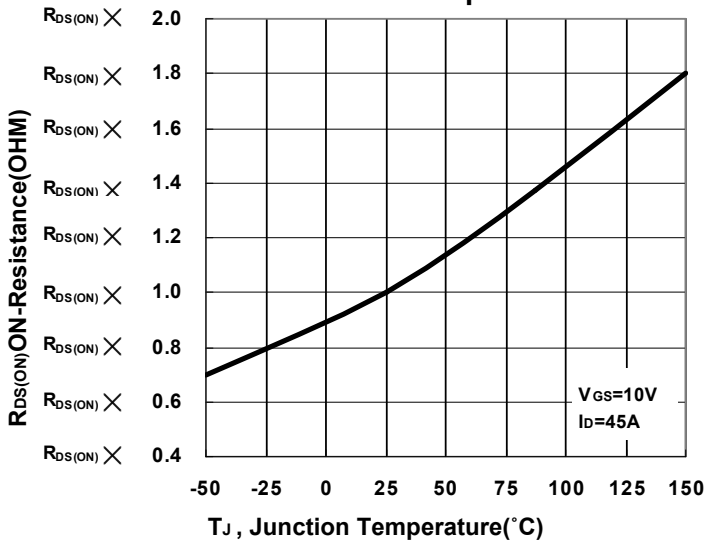
Output Characteristics



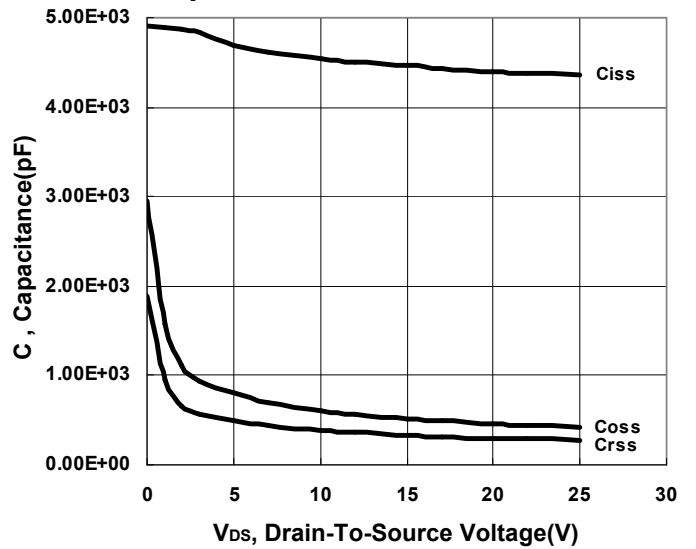
Transfer Characteristics



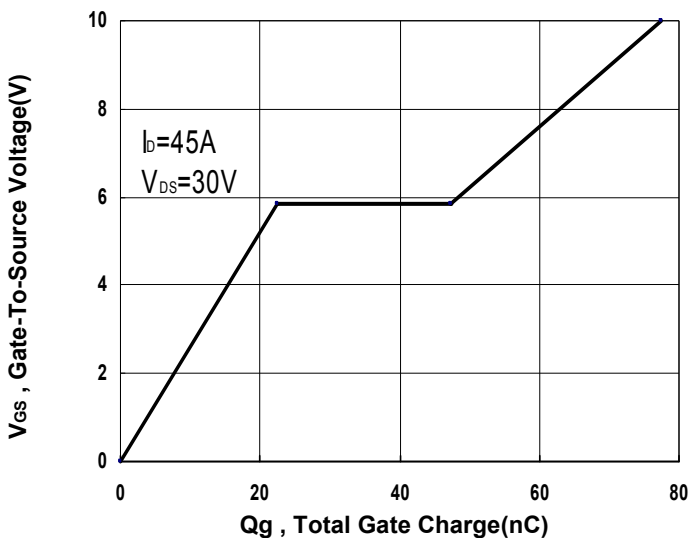
On-Resistance VS Temperature



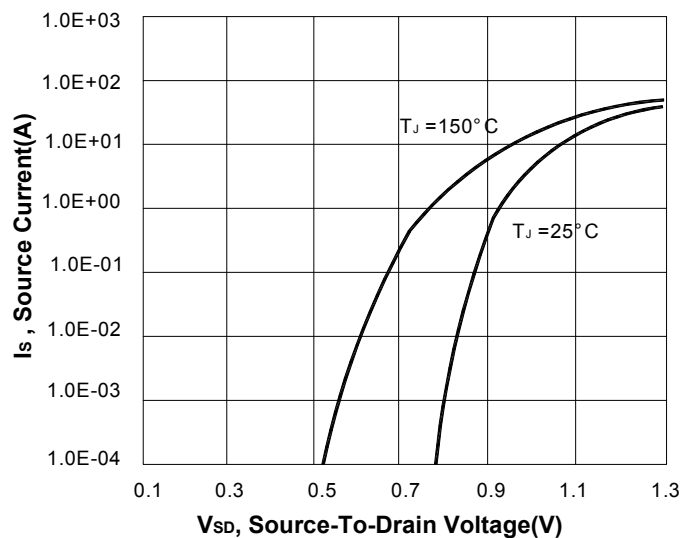
Capacitance Characteristic



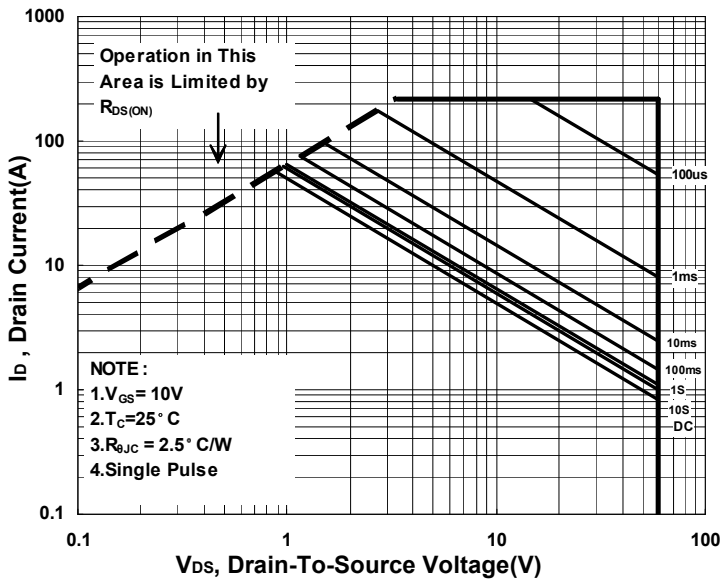
Gate charge Characteristics



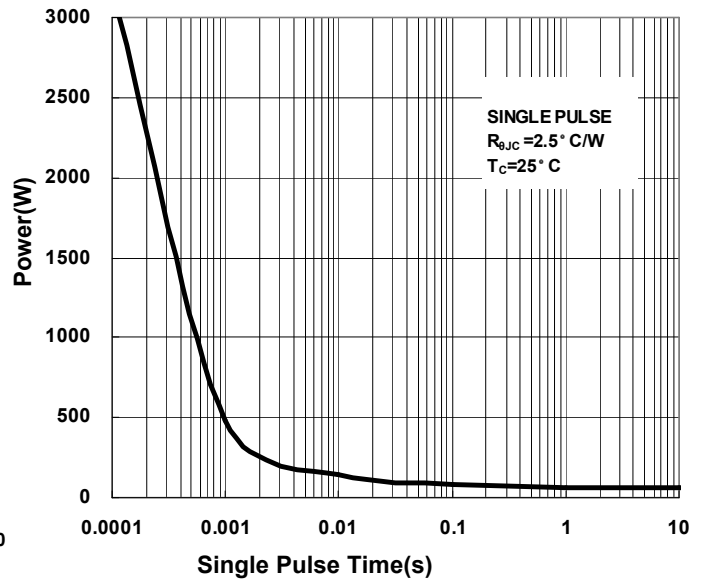
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

