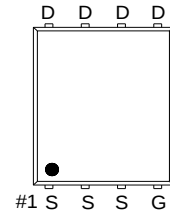
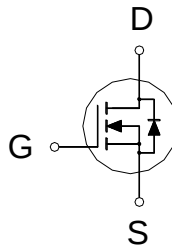


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
150V	29m Ω	31A



G. GATE
D. DRAIN
S. 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}	150	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	31	A
	$T_C = 100\text{ }^{\circ}\text{C}$		22	
Pulsed Drain Current ¹		I_{DM}	65	
Continuous Drain Current	$T_A = 25\text{ }^{\circ}\text{C}$	I_D	6.8	
	$T_A = 70\text{ }^{\circ}\text{C}$		5.6	
Avalanche Current		I_{AS}	9	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	40	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	65	W
	$T_C = 100\text{ }^{\circ}\text{C}$		33	
Power Dissipation	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	3	W
	$T_A = 70\text{ }^{\circ}\text{C}$		2.1	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 175	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE		SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$t \leq 10\text{s}$	$R_{\theta JA}$		50	$^{\circ}\text{C} / \text{W}$
Junction-to-Ambient ²	Steady-State	$R_{\theta JA}$		74	
Junction-to-Case		$R_{\theta JC}$		2.3	

¹Pulse width limited by maximum junction temperature.

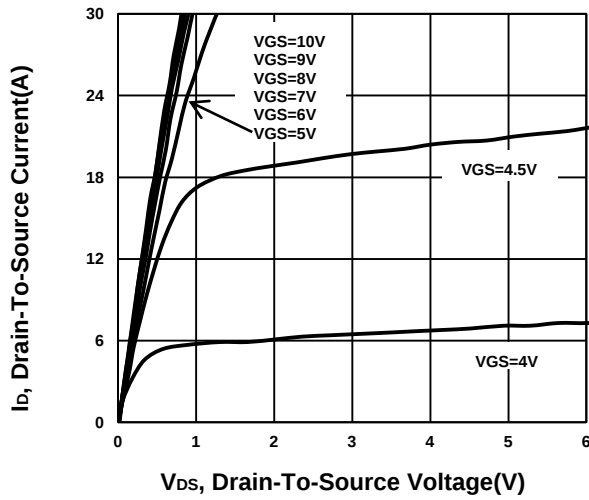
²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^{\circ}\text{C}$.

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

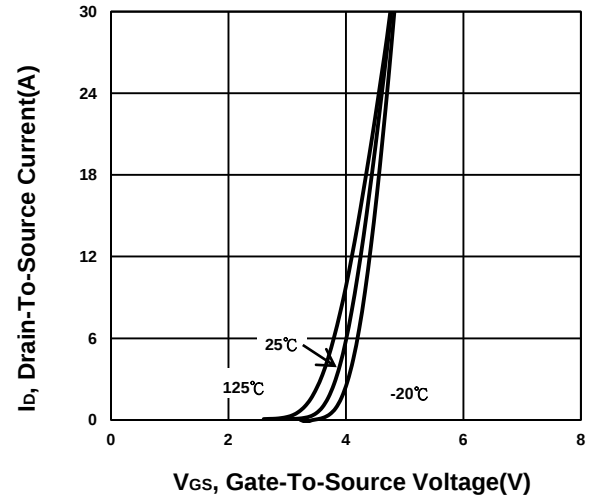
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	150			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2	2.7	4	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 150V, V _{GS} = 0V			1	μA
		V _{DS} = 150V, V _{GS} = 0V, T _J = 55 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 15A		21	29	mΩ
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 15A		14		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 75V, f = 1MHz		1222		pF
Output Capacitance	C _{oss}			119		
Reverse Transfer Capacitance	C _{rss}			11		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		0.5		Ω
Total Gate Charge ²	Q _g	V _{DS} = 75V, V _{GS} = 10V, I _D = 15A		21		nC
Gate-Source Charge ²	Q _{gs}			4.9		
Gate-Drain Charge ²	Q _{gd}			6.7		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 75V , I _D ≅ 15A, V _{GS} = 10V, R _{GEN} =6Ω		14		nS
Rise Time ²	t _r			46		
Turn-Off Delay Time ²	t _{d(off)}			24		
Fall Time ²	t _f			59		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)						
Continuous Current	I _S				31	A
Forward Voltage ¹	V _{SD}	I _F = 15A, V _{GS} = 0V			1.2	V
Reverse Recovery Time	t _{rr}	I _F = 15A, dI _F /dt = 100A / μS		66		nS
Reverse Recovery Charge	Q _{rr}			105		nC

¹Pulse test : Pulse Width $\leq 300\text{ }\mu\text{sec}$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.

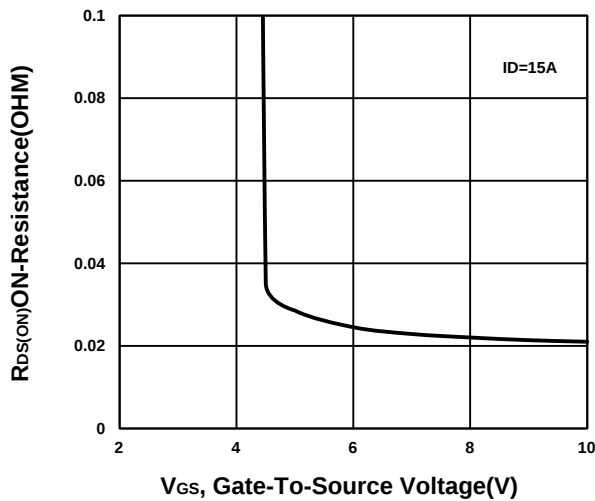
Output Characteristics



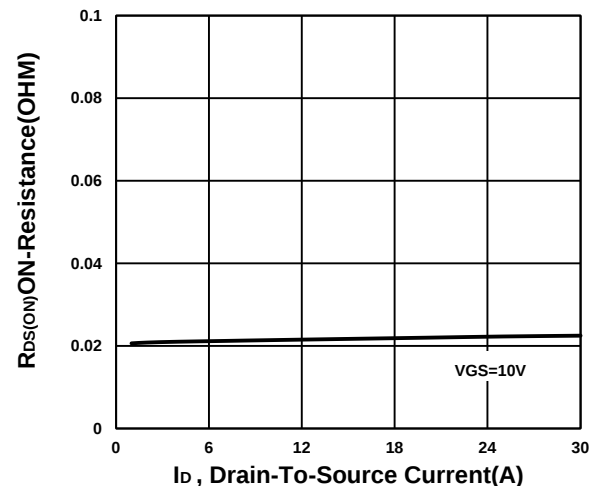
Transfer Characteristics



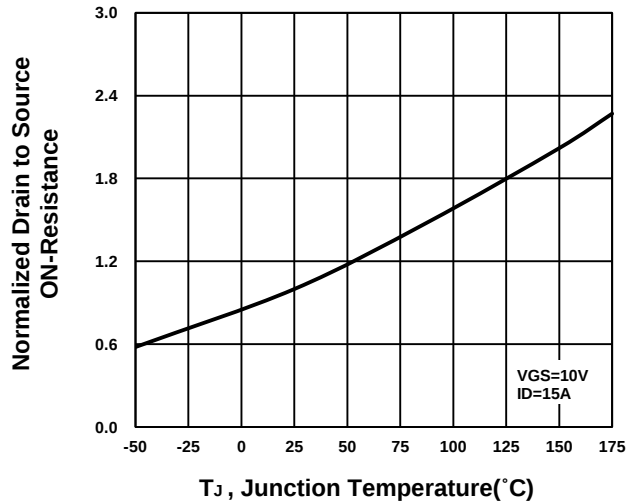
On-Resistance VS Gate-To-Source Voltage



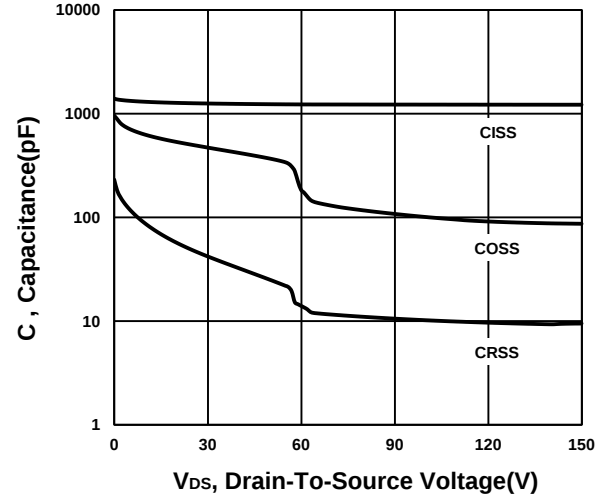
On-Resistance VS Drain Current



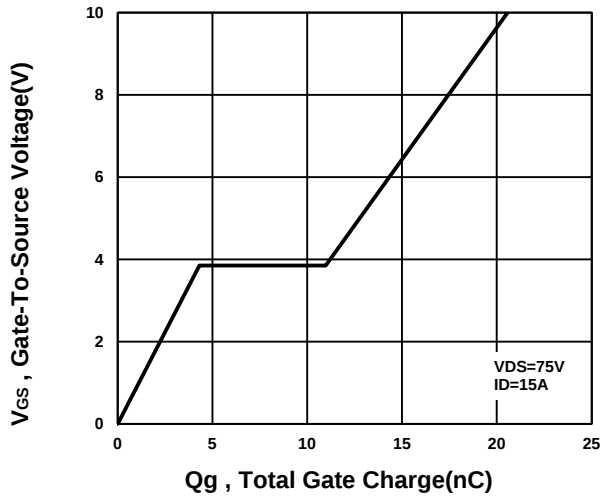
On-Resistance VS Temperature



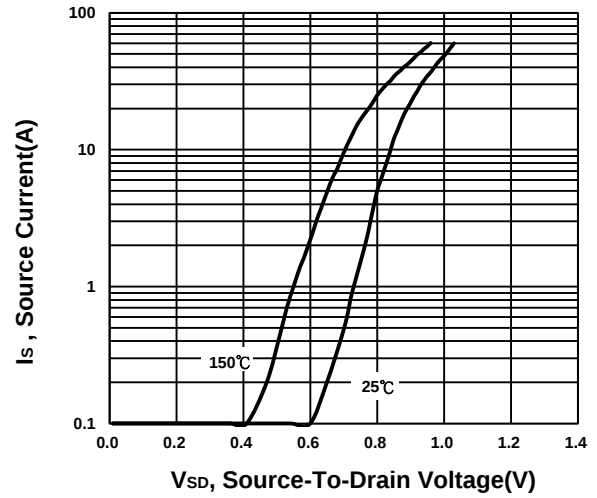
Capacitance Characteristic



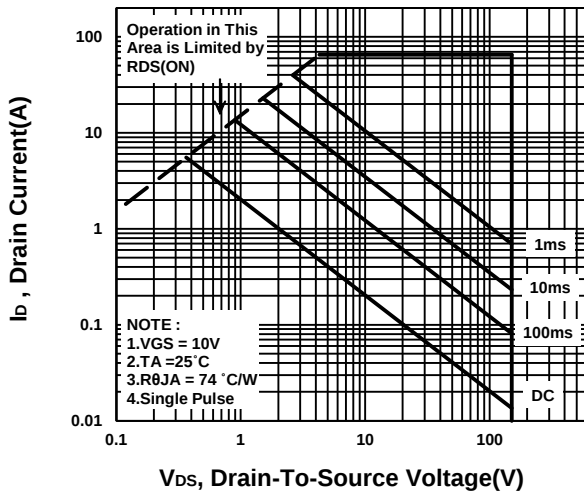
Gate charge Characteristics



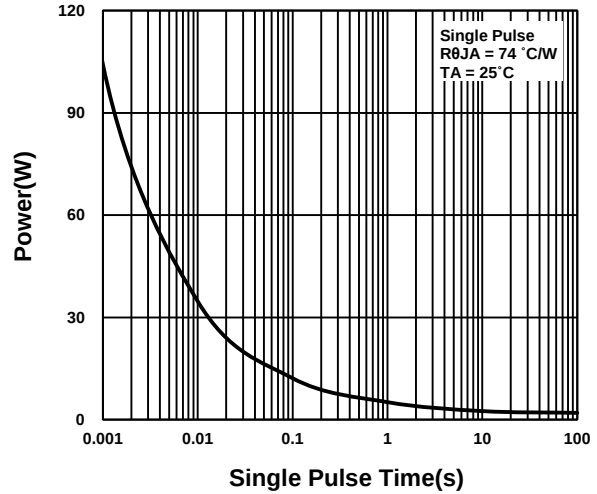
Source-Drain Diode Forward Voltage



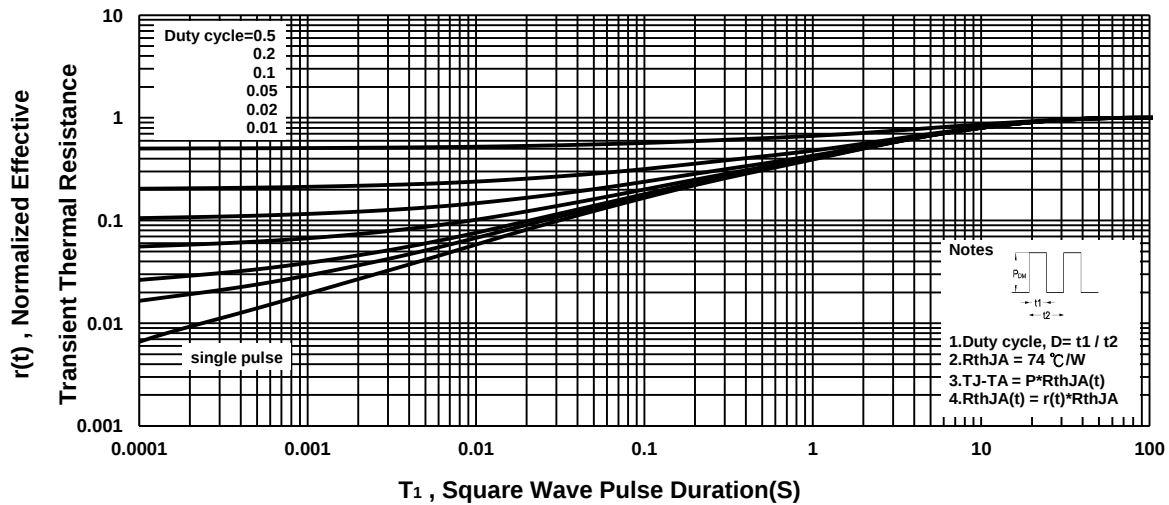
Safe Operating Area



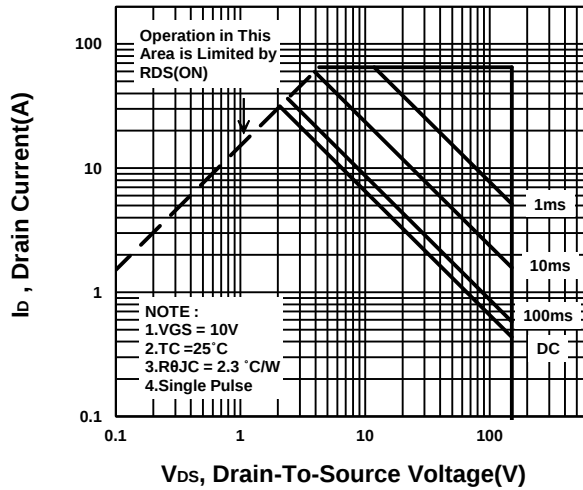
Single Pulse Maximum Power Dissipation



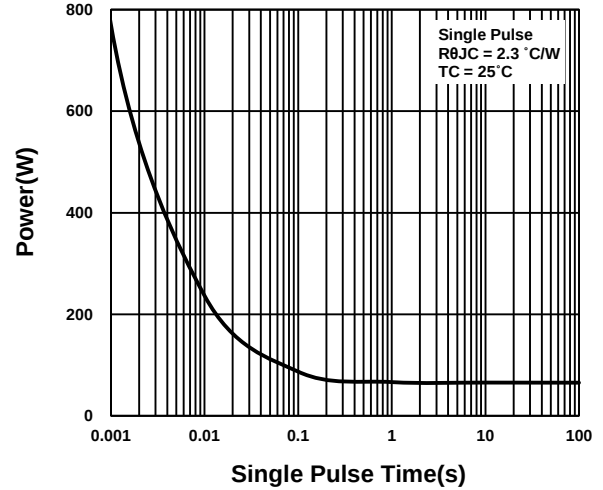
Transient Thermal Response Curve



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

