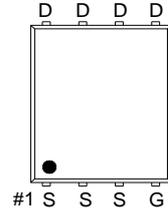
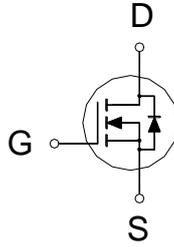




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	6.7m Ω	79A



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}	100	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	I_D	79	A
	$T_C = 100\text{ }^\circ\text{C}$		56	
Pulsed Drain Current ¹		I_{DM}	150	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	18	
	$T_A = 70\text{ }^\circ\text{C}$		15	
Avalanche Current		I_{AS}	13.9	
Avalanche Energy	$L = 1\text{mH}$	E_{AS}	96.6	mJ
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	100	W
	$T_C = 100\text{ }^\circ\text{C}$		50	
Power Dissipation ³	$T_A = 25\text{ }^\circ\text{C}$	P_D	5.1	W
	$T_A = 70\text{ }^\circ\text{C}$		3.6	
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	$t \leq 10\text{s}$	$R_{\theta JA}$		29	$^\circ\text{C} / \text{W}$
Junction-to-Ambient ²	Steady-State	$R_{\theta JA}$		54	
Junction-to-Case	Steady-State	$R_{\theta JC}$		1.5	

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 $T_A = 25\text{ }^\circ\text{C}$.

³The Power dissipation is based on $R_{\theta JA} t \leq 10\text{s}$ value.

ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

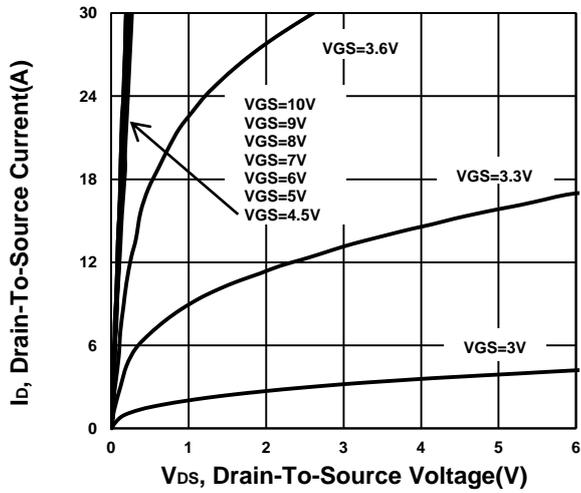
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.4	1.9	3	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 100V, V _{GS} = 0V			1	μA
		V _{DS} = 100V, V _{GS} = 0V, T _J = 55 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 10V, I _D = 14A		5.2	6.7	mΩ
		V _{GS} = 4.5V, I _D = 10A		7.1	10.2	
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 14A		60		S
DYNAMIC						
Input Capacitance ³	C _{ISS}	V _{GS} = 0V, V _{DS} = 50V, f = 1MHz	2282	3261	4239	pF
Output Capacitance ³	C _{OSS}		199	285	370	
Reverse Transfer Capacitance ³	C _{RSS}		4.9	14	23	
Gate Resistance ³	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz	0.9	1.7	2.6	Ω
Total Gate Charge ^{2,3}	Q _g	V _{GS} = 10V	41	59	78	nC
		V _{GS} = 4.5V	22	32	42	
Gate-Source Charge ^{2,3}	Q _{gs}	V _{DS} = 50V, V _{GS} = 10V, I _D = 14A	7	10	13	
Gate-Drain Charge ^{2,3}	Q _{gd}		7.5	15	22.5	
Turn-On Delay Time ^{2,3}	t _{d(on)}	V _{DS} = 50V, I _D ≅ 14A, V _{GS} = 10V, R _{GEN} = 6Ω		19		nS
Rise Time ^{2,3}	t _r			51		
Turn-Off Delay Time ^{2,3}	t _{d(off)}			79		
Fall Time ^{2,3}	t _f			87		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I _S				79	A
Forward Voltage ¹	V _{SD}	I _F = 14A, V _{GS} = 0V			1.2	V
Reverse Recovery Time ³	t _{rr}	I _F = 14A, di _F /dt = 100A / μS	19	38	57	nS
Reverse Recovery Charge ³	Q _{rr}		26	52	78	nC

¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

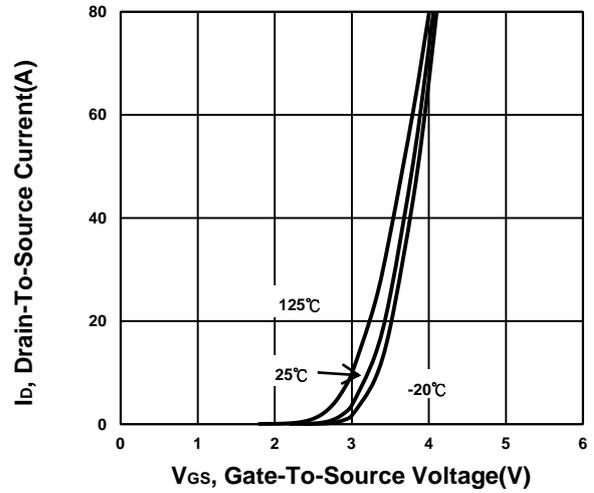
²Independent of operating temperature.

³Guaranteed by design, not subject to production testing

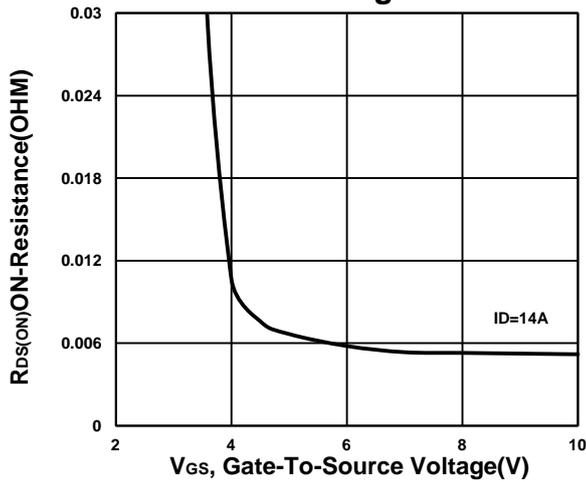
Output Characteristics



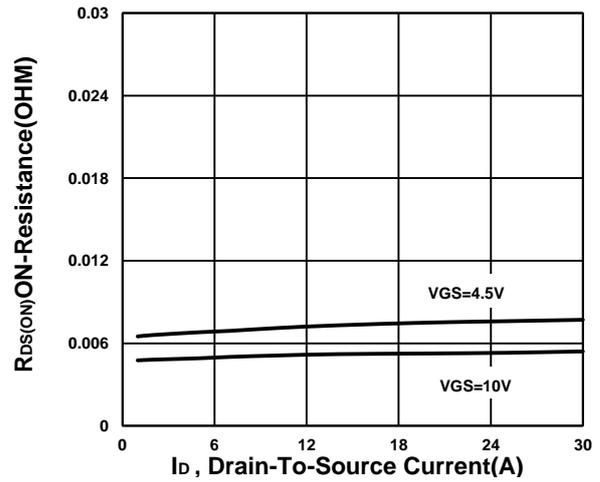
Transfer Characteristics



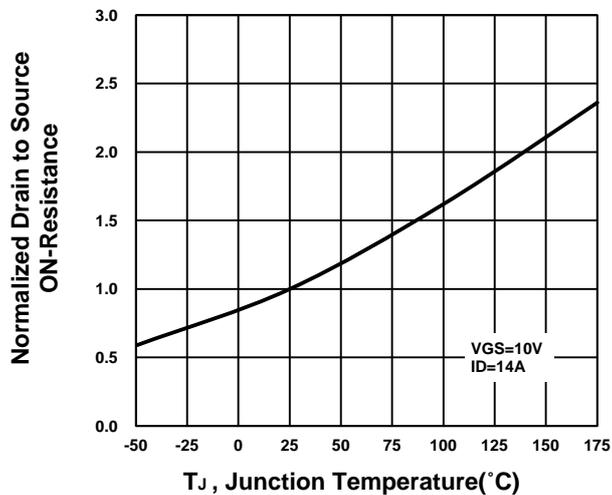
On-Resistance VS Gate-To-Source Voltage



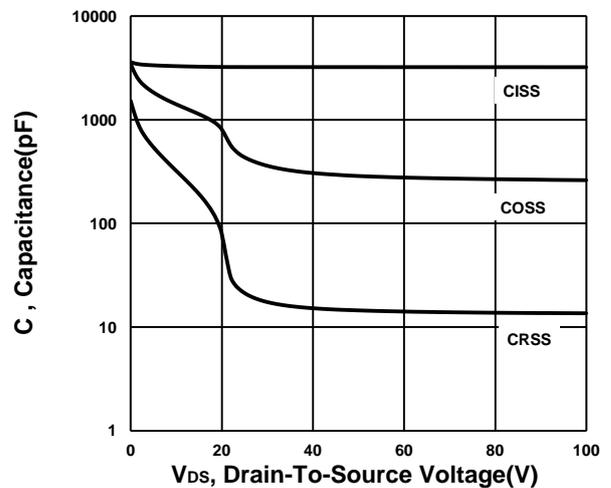
On-Resistance VS Drain Current



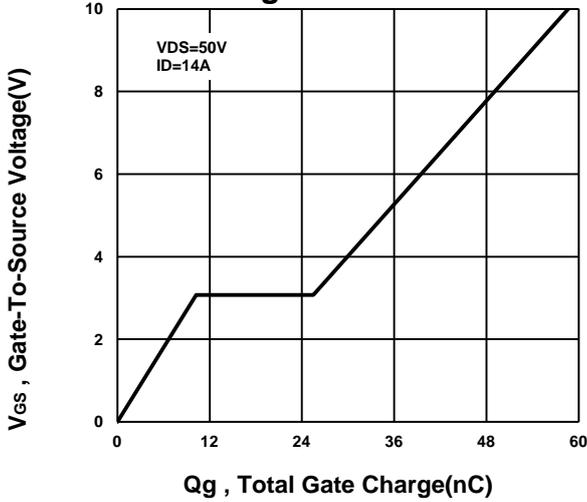
On-Resistance VS Temperature



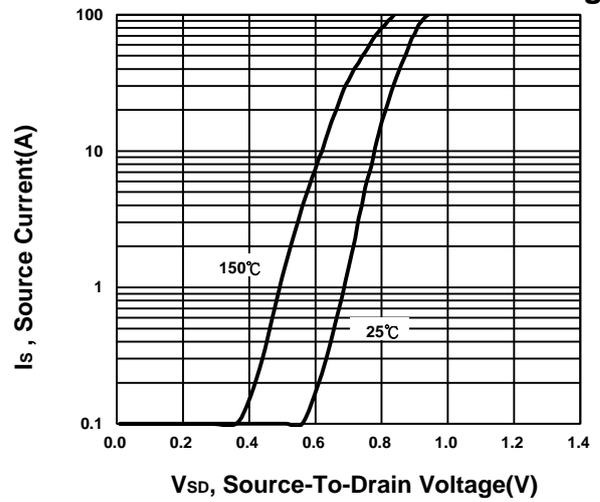
Capacitance Characteristic



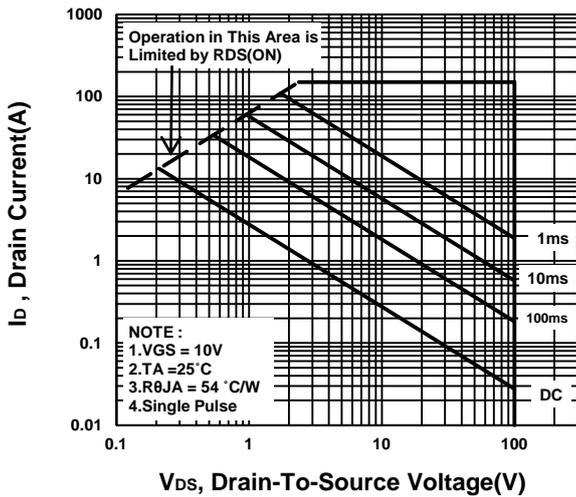
Gate charge Characteristics



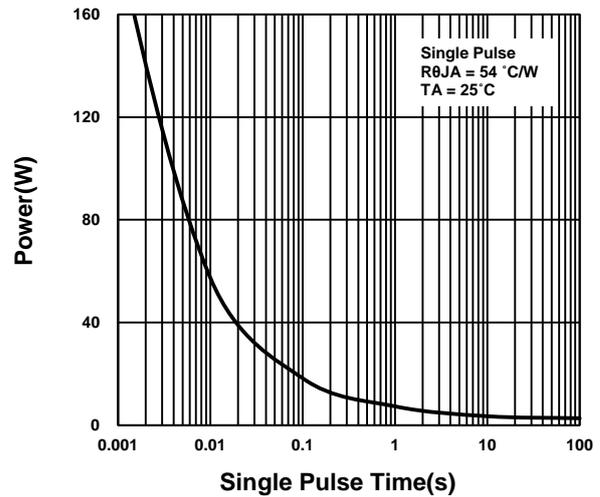
Source-Drain Diode Forward Voltage



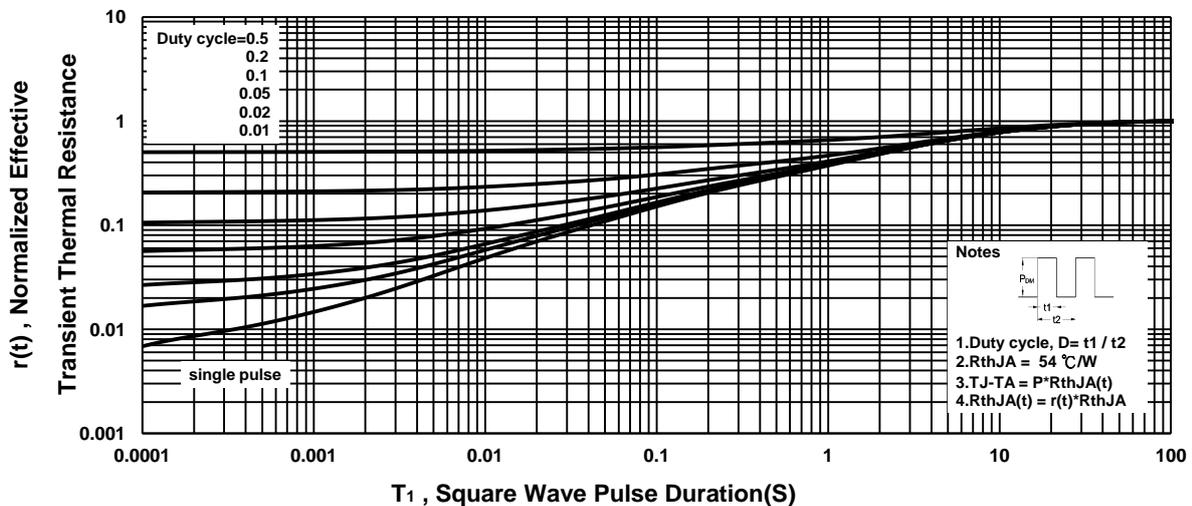
Safe Operating Area



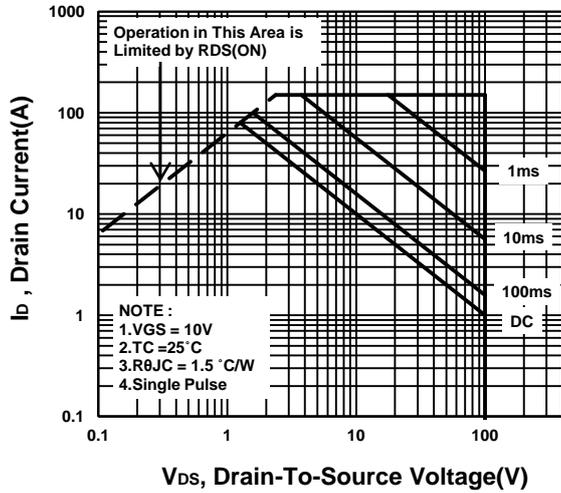
Single Pulse Maximum Power Dissipation



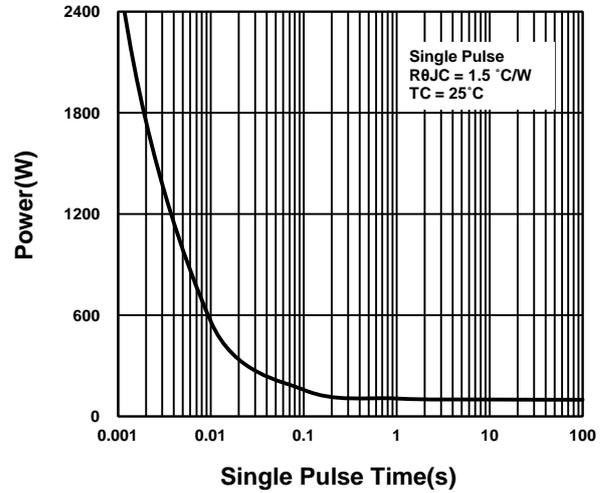
Transient Thermal Response Curve



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

