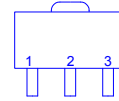
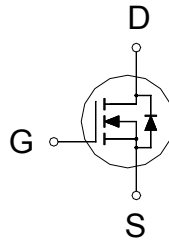




PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	110mΩ	4A



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

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ °C}$ 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	$T_A = 25\text{ °C}$	I_D	4	A
	$T_A = 100\text{ °C}$		3.5	
Pulsed Drain Current ¹		I_{DM}	15	
Avalanche Current		I_{AS}	4.8	
Avalanche Energy	L = 1mH	E_{AS}	11.5	mJ
Power Dissipation ³	$T_A = 25\text{ °C}$	P_D	3.9	W
	$T_A = 100\text{ °C}$		2.5	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE		SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$t \leq 10s$	$R_{\theta JA}$		32	°C / W
Junction-to-Ambient ²	Steady-State	$R_{\theta JA}$		63	
Junction-to-Case		$R_{\theta Jc}$		20	

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 $T_A = 25\text{ °C}$.

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

ELECTRICAL CHARACTERISTICS ($T_j = 25\text{ °C}$, Unless Otherwise Noted)

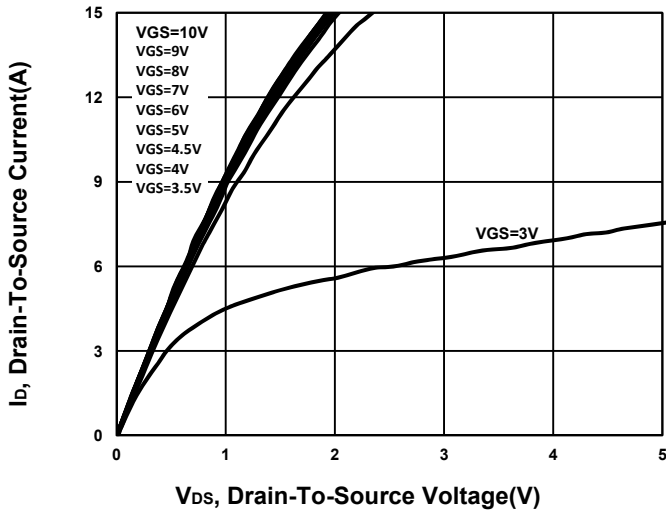
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.8	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			±100	nA

Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
		$V_{DS} = 80V, V_{GS} = 0V, T_J = 125\text{ }^\circ C$			10	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 4A$		86	120	$m\Omega$
		$V_{GS} = 10V, I_D = 4A$		81	110	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 4A$		22		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		573		pF
Output Capacitance	C_{oss}			58		
Reverse Transfer Capacitance	C_{rss}			32		
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.5		Ω
Total Gate Charge ²	$Q_{g(VGS=10V)}$	$V_{DS} = 50V, I_D = 4A$		13.6		nC
	$Q_{g(VGS=4.5V)}$			8		
Gate-Source Charge ²	Q_{gs}			2		
Gate-Drain Charge ²	Q_{gd}			4.6		
Turn-On Delay Time ²	$t_{d(on)}$		$V_{DS} = 50V$ $I_D \cong 4A, V_{GS} = 10V, R_{GS} = 6\Omega$		16	
Rise Time ²	t_r			5		
Turn-Off Delay Time ²	$t_{d(off)}$			35		
Fall Time ²	t_f			10		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^\circ C$)						
Continuous Current	I_S				2.8	A
Forward Voltage ¹	V_{SD}	$I_F = 4A, V_{GS} = 0V$			1.4	V
Reverse Recovery Time	t_{rr}	$I_F = 4A, di/dt = 100 A/\mu s$		21		nS
Reverse Recovery Charge	Q_{rr}			14		nC

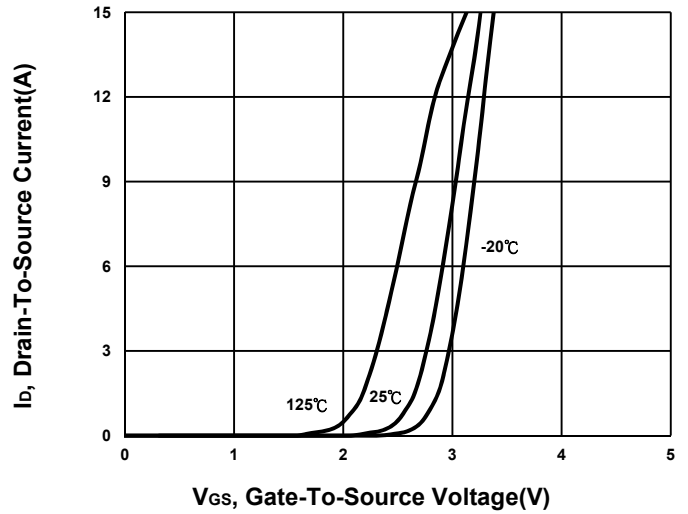
¹Pulse test : Pulse Width $\leq 300\ \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

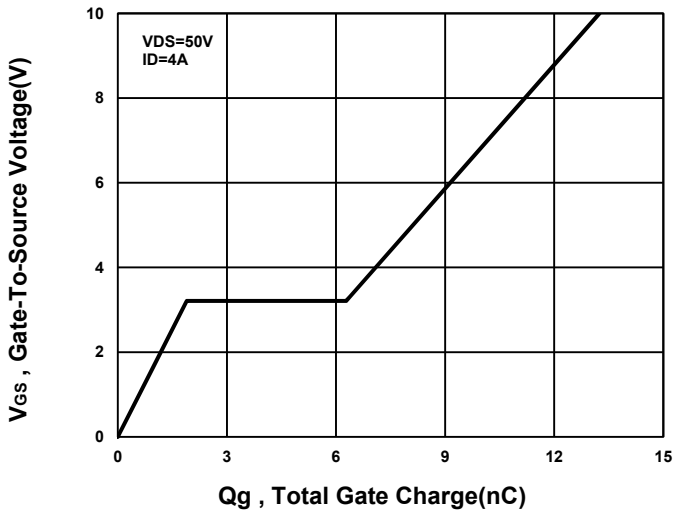
Output Characteristics



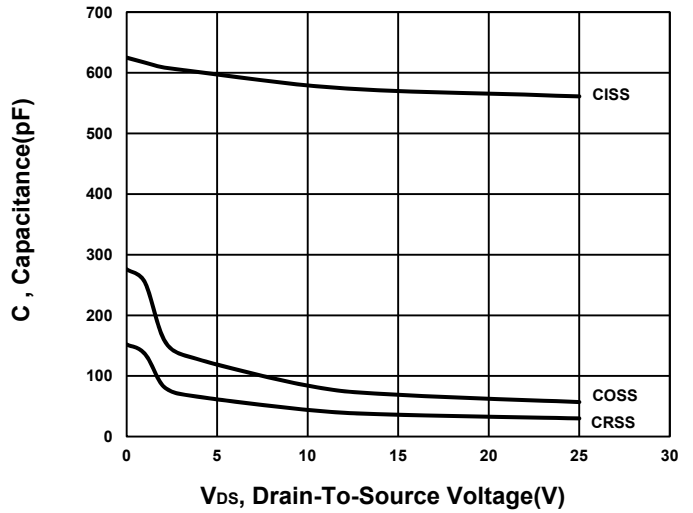
Transfer Characteristics



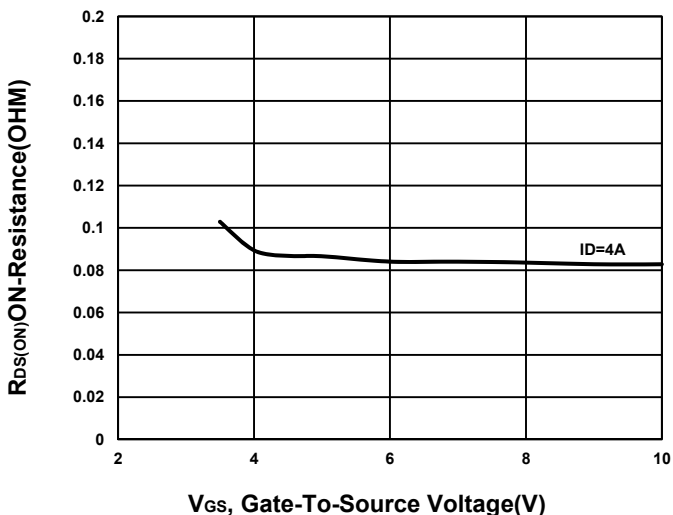
Gate charge Characteristics



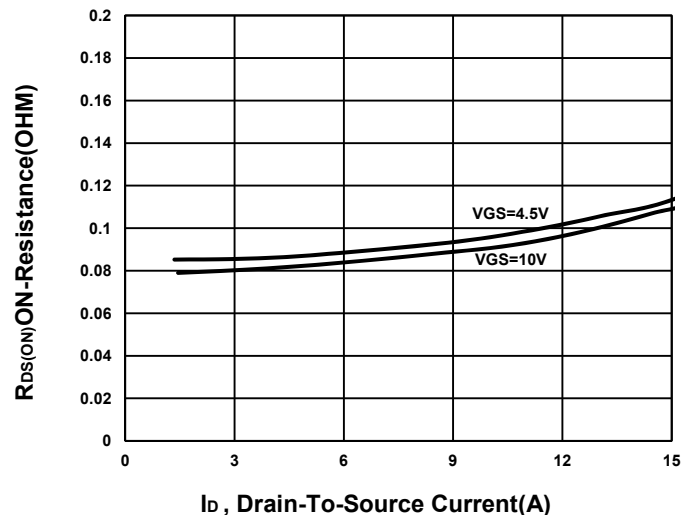
Capacitance Characteristic



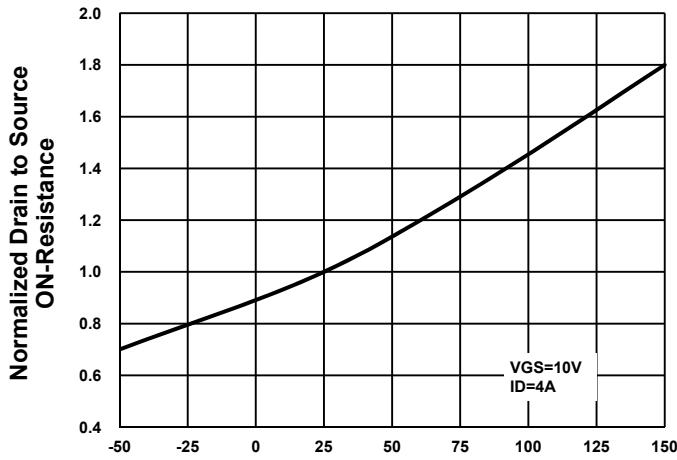
On-Resistance VS Gate-To-Source



On-Resistance VS Drain Current

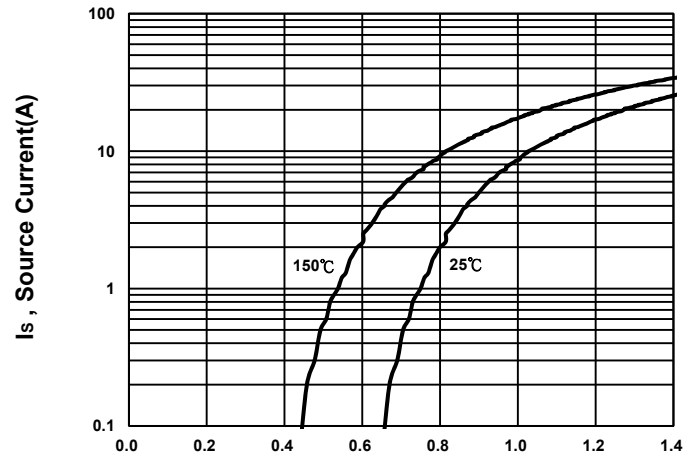


On-Resistance VS Temperature



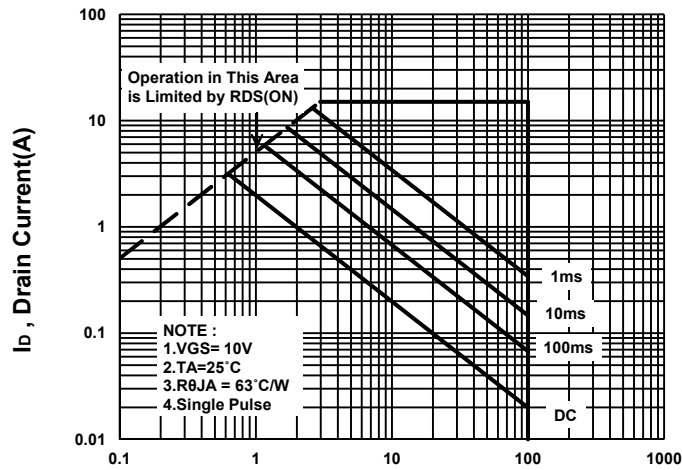
T_J, Junction Temperature(°C)

Source-Drain Diode Forward Voltage



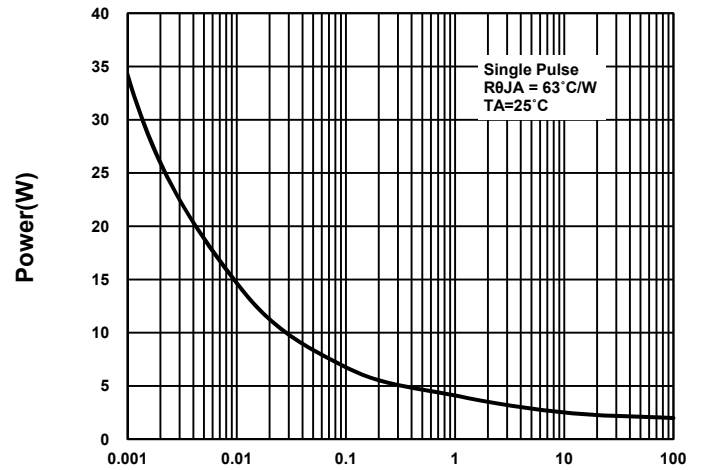
V_{SD}, Source-To-Drain Voltage(V)

Safe Operating Area



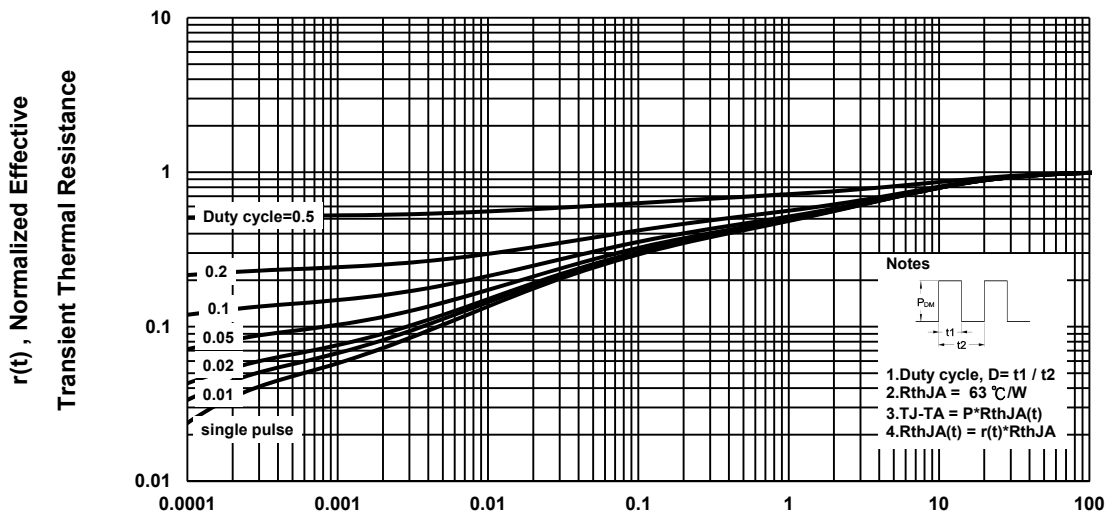
V_{DS}, Drain-To-Source Voltage(V)

Single Pulse Maximum Power Dissipation



Single Pulse Time(s)

Transient Thermal Response Curve



T₁, Square Wave Pulse Duration[sec]