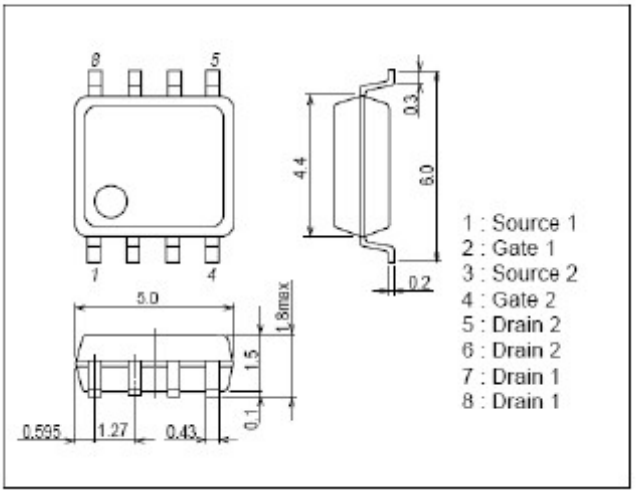
Features

- Low On resistance
- 4.5V/-4.5V drive
- RoHS compliant

Package Dimensions

unit : mm
SOP-8



Absolute Maximum Ratings T_A = 25ºC

Parameter	Symbol	Conditions	Ratings		Unit
			N-Ch	P-Ch	
Drain-to-Source Voltage	V_{DSS}	Drain-Source Voltage	60	-60	V
Gate-to-Source Voltage	V_{GSS}	Gate-Source Voltage	±25	±25	V
Drain Current (DC)	I_D	Continuous Drain Current	5	-3.5	A
Drain Current (Pulse)	I_{DP}	PW ≤ 10μS, duty cycle ≤ 1%	20	-14	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1000mm^2 ×0.8mm) 1unit	1.3		W
Total Dissipation	P_T	Mounted on a ceramic board (1000mm^2 ×0.8mm)	1.7		W
Channel Temperature	T_{ch}	Maximum Junction Temperature	150		ºC
Storage Temperature	T_{stg}	Storage Temperature Range	-55~+150		ºC

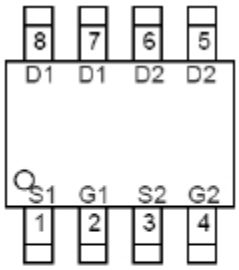
Electrical Characteristics T_A = 25ºC

Parameter	Symbol	Conditions		Ratings			Unit
				Min.	Typ.	Max.	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = 250μA, V_{GS} = 0V	N-Ch	60	--	--	V
		I_D = -250μA, V_{GS} = 0V	P-Ch	-60	--	--	
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS} = 48V, V_{GS} = 0V	N-Ch	--	--	1	μA
		V_{DS} = -48V, V_{GS} = 0V	P-Ch	--	--	-1	
Gate-to-Source Leakage Current	I_{GSS}	V_{GS} = +25V, V_{DS} = 0V	N-Ch	--	--	±100	nA
		V_{GS} = +25V, V_{DS} = 0V	P-Ch	--	--	±100	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	N-Ch	1	2	2.5	V
		V_{DS} = V_{GS}, I_D = -250μA	P-Ch	-1	-2	-2.5	
Static Drain-to-Source On-State Resistance	$R_{DS(ON)}$	I_D = 5A, V_{GS} = 10V	N-Ch	--	38	52	mΩ
		I_D = -3.5A, V_{GS} = -10V	P-Ch	--	80	100	

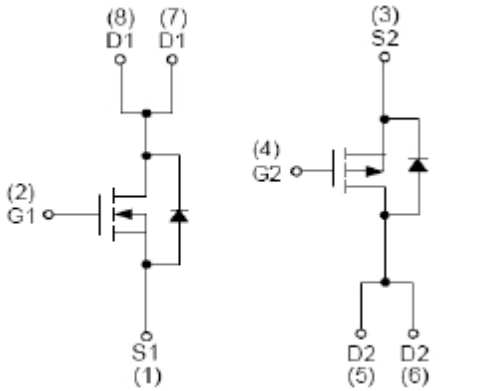
Electrical Characteristics T_A = 25ºC (Continued)

Parameter	Symbol	Conditions		Ratings			Unit
				Min.	Typ.	Max.	
Static Drain-to-Source On-State Resistance	$R_{DS(ON)}$	I_D = 4A, V_{GS} = 4.5V	N-Ch	--	55	75	mΩ
		I_D = -3.1A, V_{GS} = -4.5V	P-Ch	--	100	135	
Input Capacitance	C_{iss}	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz	N-Ch	--	915	--	pF
		V_{DS} = -30V, V_{GS} = 0V, f = 1MHz	P-Ch	--	1050	--	
Output Capacitance	C_{oss}	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz	N-Ch	--	70	--	pF
		V_{DS} = -30V, V_{GS} = 0V, f = 1MHz	P-Ch	--	70	--	
Reverse Transfer Capacitance	C_{rss}	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz	N-Ch	--	45	--	pF
		V_{DS} = -30V, V_{GS} = 0V, f = 1MHz	P-Ch	--	50	--	
Turn-on Delay Time	$t_{d(on)}$	N-Channel V_{GEN} = 10V, V_{DS} = 30V, R_L = 30Ω, I_D = 1A, R_{GEN} = 6Ω P-Channel V_{GEN} = -10V, V_{DS} = -30V, R_L = 30Ω, I_D = -1A, R_{GEN} = 6Ω	N-Ch	--	9	17	nS
			P-Ch	--	7	14	
Rise Time	t_r		N-Ch	--	6	12	nS
			P-Ch	--	8	15	
Turn-off Delay Time	$t_{d(off)}$		N-Ch	--	25	46	nS
			P-Ch	--	47	86	
Fall Time	t_f		N-Ch	--	5	10	nS
			P-Ch	--	17	32	
Total Gate Charge	Q_g	N-Channel V_{DS} = 30V, V_{GS} = 10V, I_D = 5A P-Channel V_{DS} = -30V, V_{GS} = -10V,	N-Ch	--	19	27	nC
			P-Ch	--	22	31	
Gate-to-Source Charge	Q_{gs}		N-Ch	--	4.4	--	nC
			P-Ch	--	2.8	--	
Gate-to-Drain “Miller” Charge	Q_{gd}		N-Ch	--	4.4	--	nC
			P-Ch	--	5	--	
Diode Forward Voltage	V_{SD}	I_S = 2.5A, V_{GS} = 0V	N-Ch	--	0.8	1.1	V
		I_S = -2.5A, V_{GS} = 0V	P-Ch	--	-0.8	-1.1	

Pin Description



TOP VIEW
SOP-8

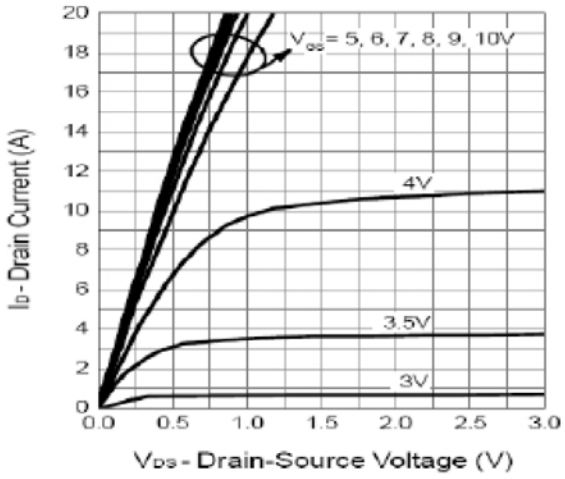


N-Channel MOSFET P-Channel MOSFET

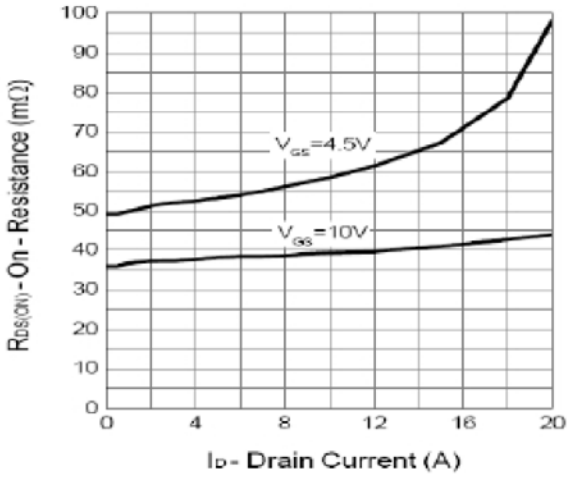
Typical Characteristics TA=25℃

N-Channel

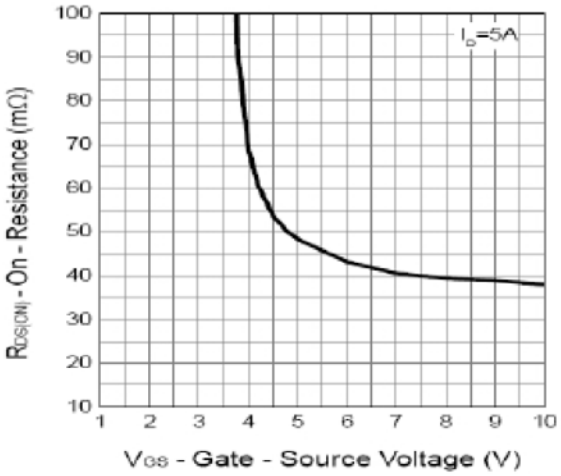
Output Characteristics



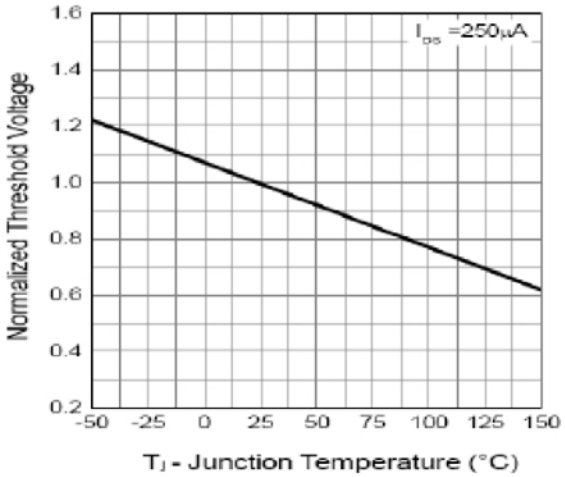
Drain-Source On Resistance



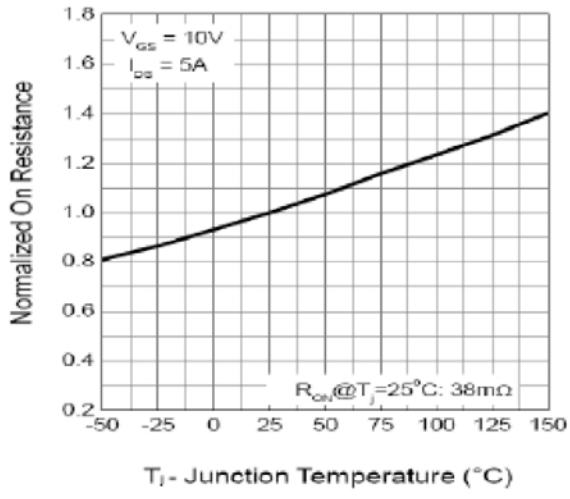
Drain-Source On Resistance



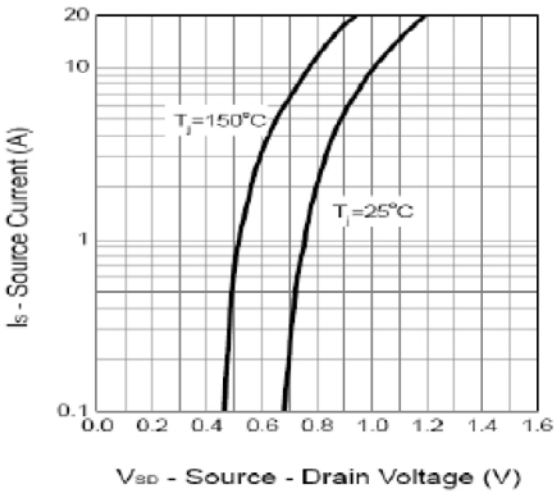
Gate Threshold Voltage



Drain-Source On Resistance



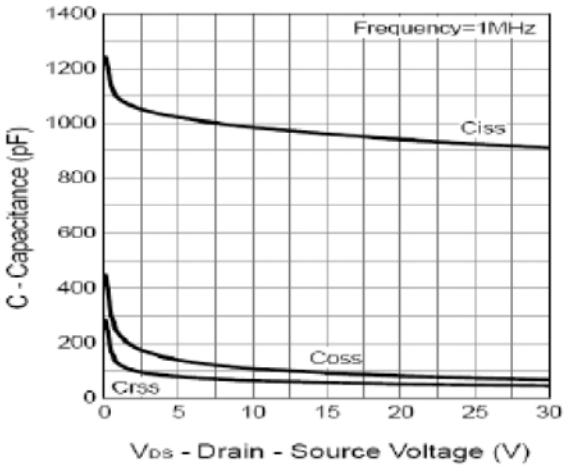
Source-Drain Diode Forward



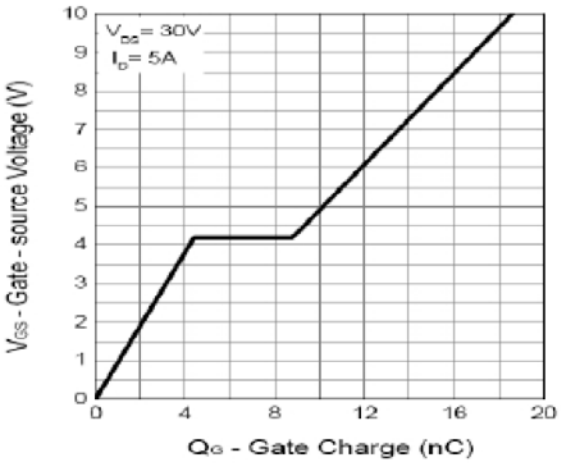
Typical Characteristics TA=25℃

N-Channel

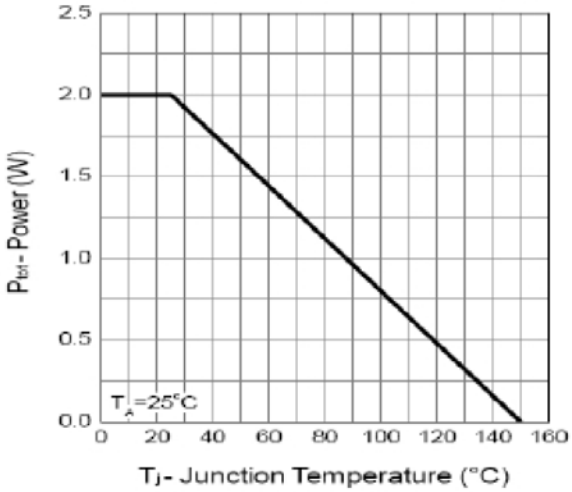
Capacitance



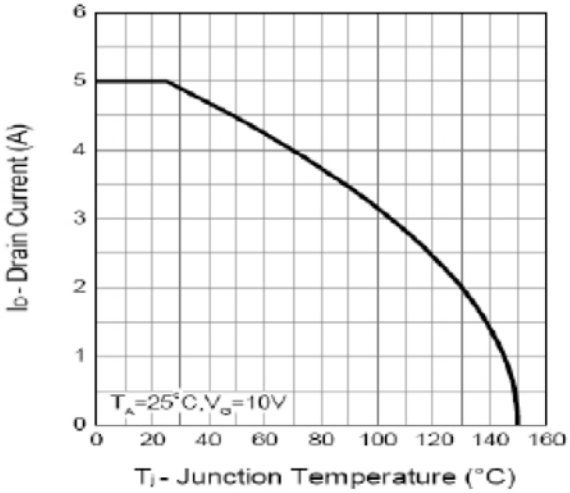
Gate Charge



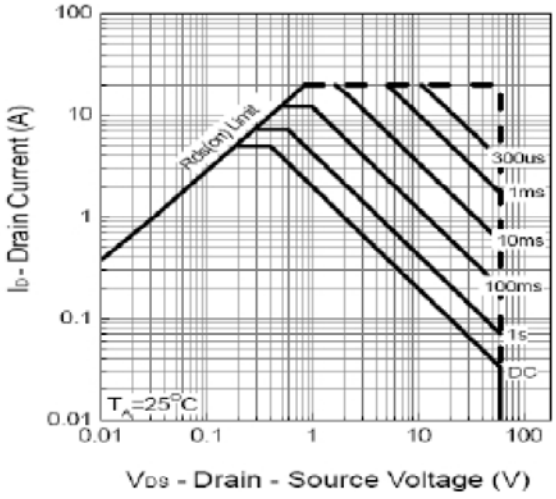
Power Dissipation



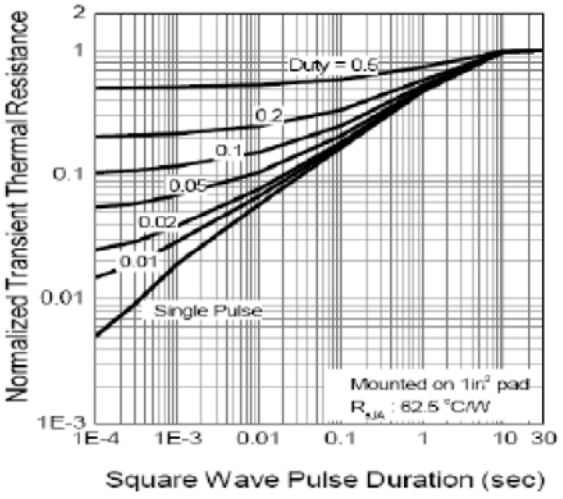
Drain Current



Safe Operation Area



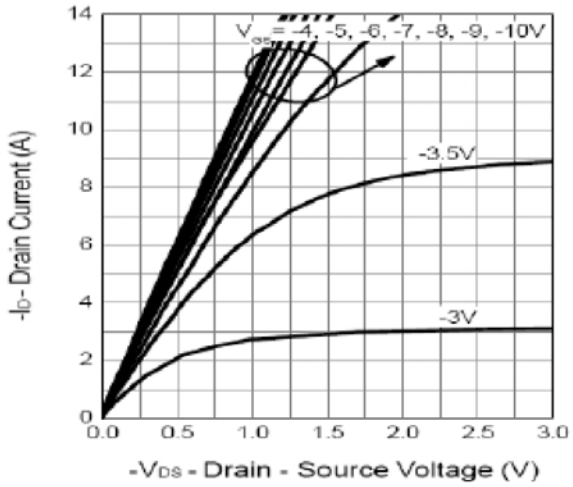
Thermal Transient Impedance



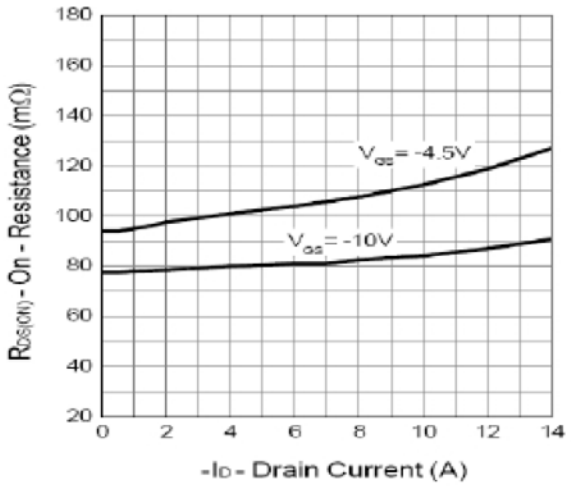
Typical Characteristics TA=25℃

P-Channel

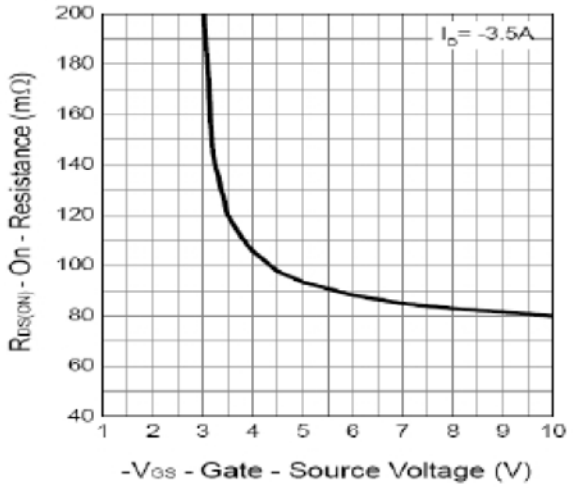
Output Characteristics



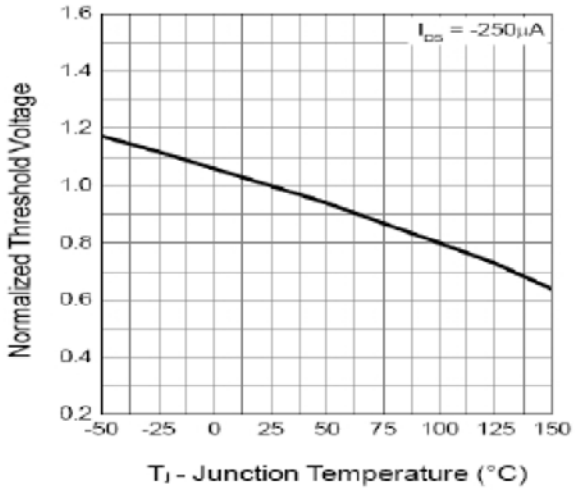
Drain-Source On Resistance



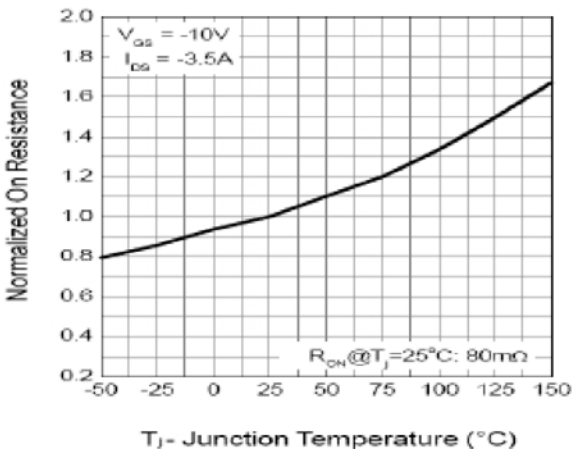
Drain-Source On Resistance



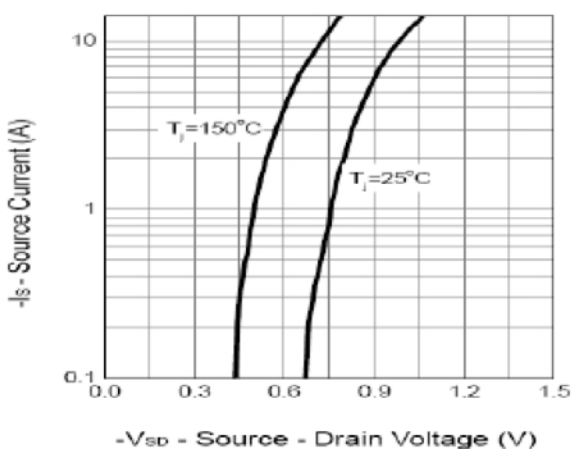
Gate Threshold Voltage



Drain-Source On Resistance



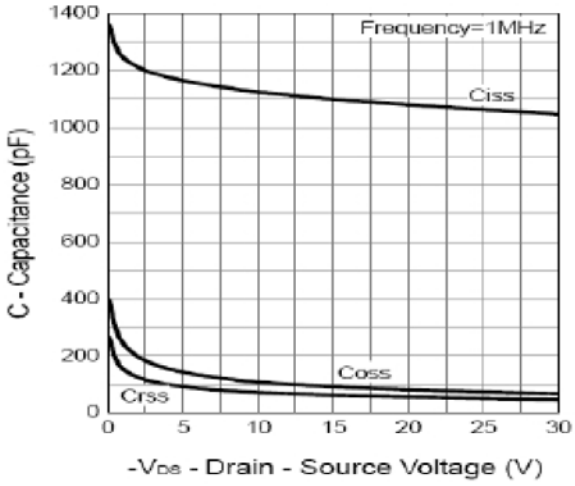
Source-Drain Diode Forward



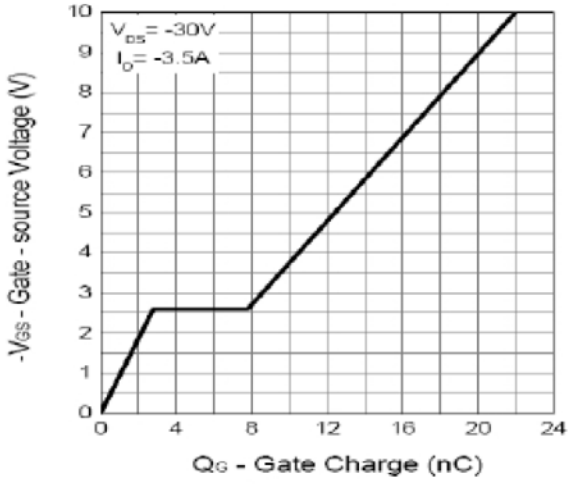
Typical Characteristics TA=25℃

P-Channel

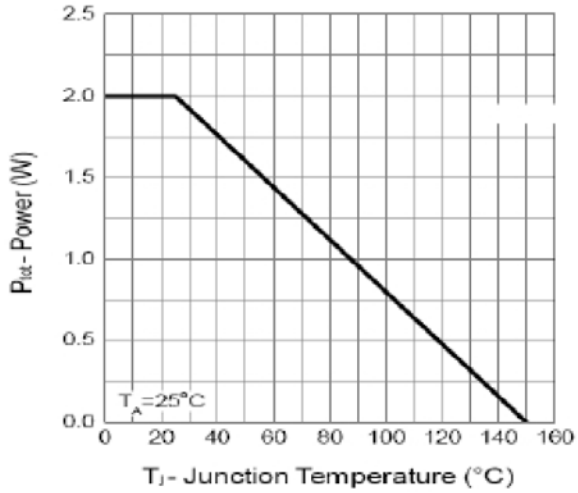
Capacitance



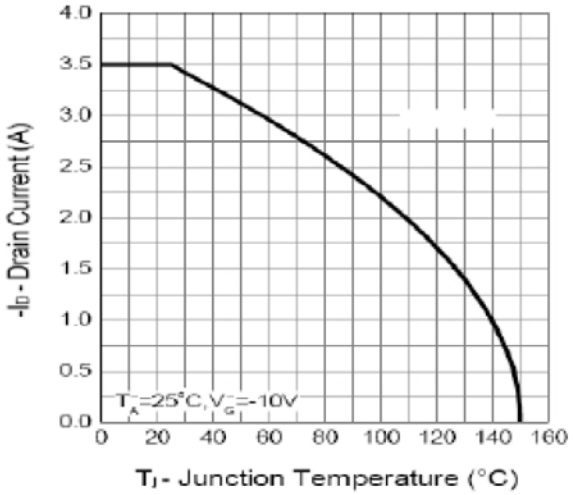
Gate Charge



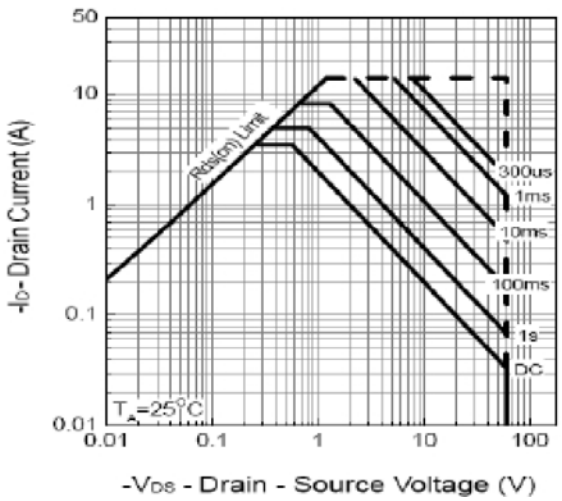
Power Dissipation



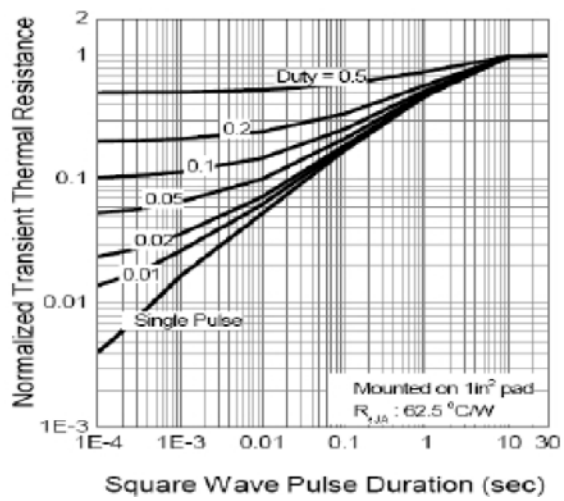
Drain Current



Safe Operation Area



Thermal Transient Impedance



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