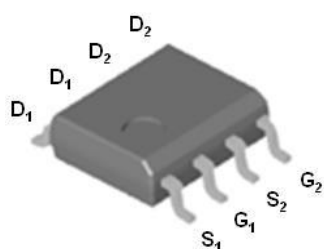


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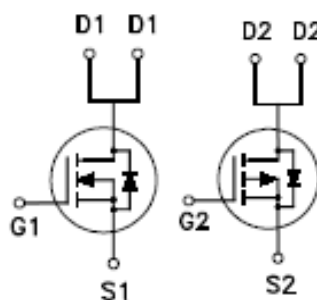
N- & P- Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

	$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
N-Channel	30	21mΩ @ $V_{GS} = 10V$	8A
P-Channel	-30	34mΩ @ $V_{GS} = 10V$	-6A



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

PARAMETERS/TEST CONDITIONS		SYMBOL	N-Channel	P-Channel	UNITS
Drain-Source Voltage		V _{DS}	30	-30	V
Gate-Source Voltage		V _{GS}	±20	±20	V
Continuous Drain Current	T _A = 25 °C	I _D	8	-6	A
	T _A = 70 °C		6	-5	
Pulsed Drain Current ¹		I _{DM}	36	-27	
Avalanche Current		I _{AS}	26	-27	
Avalanche Energy	L =0.1mH	E _{AS}	35	38	mJ
Power Dissipation	T _A = 25 °C	P _D	2		W
	T _A = 70 °C		1.3		
Junction & Storage Temperature Range		T _j , T _{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		62.5	$^{\circ}\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

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N- & P- Channel Enhancement Mode MOSFET

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS	
			MIN	TYP	MAX		
STATIC							
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	N-Ch	30		V	
		V _{GS} = 0V, I _D = -250μA	P-Ch	-30			
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	N-Ch	1	1.7		2.5
		V _{DS} = V _{GS} , I _D = -250μA	P-Ch	-1	-1.6		-2.5
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V	N-Ch			±100	nA
		V _{DS} = 0V, V _{GS} = ±20V	P-Ch			±100	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24V, V _{GS} = 0V	N-Ch			1	μA
		V _{DS} = -24V, V _{GS} = 0V	P-Ch			-1	
		V _{DS} = 20V, V _{GS} = 0V, T _J = 55 °C	N-Ch			10	
		V _{DS} =- 20V, V _{GS} = 0V, T _J = 55 °C	P-Ch			-10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 5V, V _{GS} = 10V	N-Ch	36			A
		V _{DS} =-5V, V _{GS} = -10V	P-Ch	-27			
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 6A	N-Ch		19	31	mΩ
		V _{GS} = -4.5V, I _D = -5A	P-Ch		40	56	
		V _{GS} = 10V, I _D = 7A	N-Ch		14	21	
		V _{GS} = -10V, I _D = -6A	P-Ch		28	34	
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 5A	N-Ch		14		S
		V _{DS} = -10V, I _D = -5A	P-Ch		8		
DYNAMIC							
Input Capacitance	C _{iss}	N-Channel V _{GS} = 0V, V _{DS} = 10V, f = 1MHz P-Channel V _{GS} = 0V, V _{DS} = -10V, f = 1MHz	N-Ch		659		pF
			P-Ch		983		
Output Capacitance	C _{oss}		N-Ch		218		
			P-Ch		216		
Reverse Transfer Capacitance	C _{rss}		N-Ch		138		
			P-Ch		157		

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N- & P- Channel Enhancement Mode MOSFET

Total Gate Charge ²	Q _g	N-Channel V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 10V, I _D = 7A P-Channel V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = -10V, I _D = -6A	N-Ch		16		nC
			P-Ch		21		
Gate-Source Charge ²	Q _{gs}		N-Ch		2		
			P-Ch		3		
Gate-Drain Charge ²	Q _{gd}		N-Ch		5		
			P-Ch		4		
Turn-On Delay Time ²	t _{d(on)}	N-Channel V _{DS} = 15V ID ≅ 1A, V _{GS} = 10V, R _{GEN} = 6Ω P-Channel V _{DS} = -15V, ID≅ -1A, V _{GS} = -10V, R _{GEN} = 6Ω	N-Ch		9		nS
			P-Ch		10		
Rise Time ²	t _r		N-Ch		11		
			P-Ch		15		
Turn-Off Delay Time ²	t _{d(off)}		N-Ch		18		
			P-Ch		68		
Fall Time ²	t _f		N-Ch		20		
			P-Ch		34		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _J = 25 °C)							
Continuous Current ³	I _S		N-Ch			2	A
			P-Ch			-2	
Forward Voltage ¹	V _{SD}	I _F = 5A, V _{GS} = 0V	N-Ch			1	V
		I _F = -5A, V _{GS} = 0V	P-Ch			-1	
Reverse Recovery Time	t _{rr}	I _F = 5A, dl _F /dt = 100A / μS	N-Ch		15.5		nS
		I _F = -5A, dl _F /dt = 100A / μS	P-Ch		15.5		
Reverse Recovery Charge	Q _{rr}		N-Ch		7.9		nC
			P-Ch		7.9		

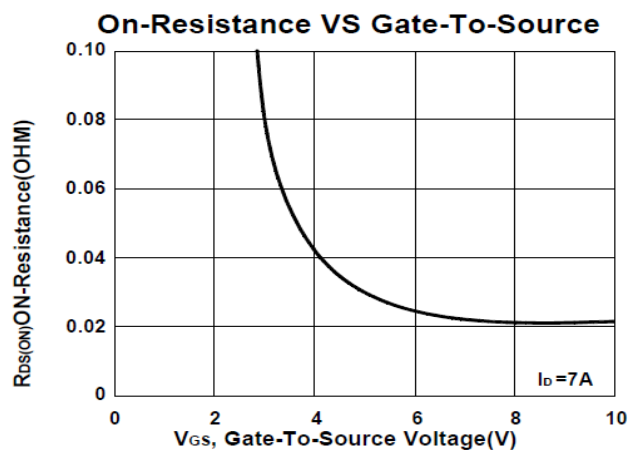
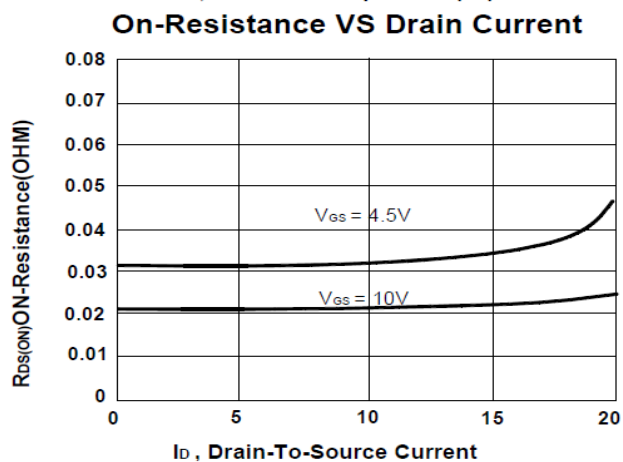
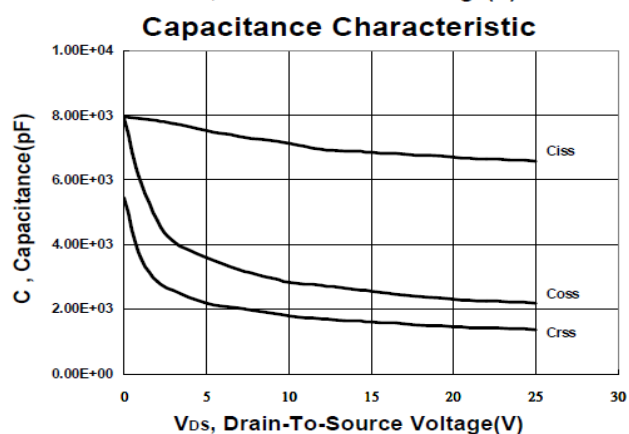
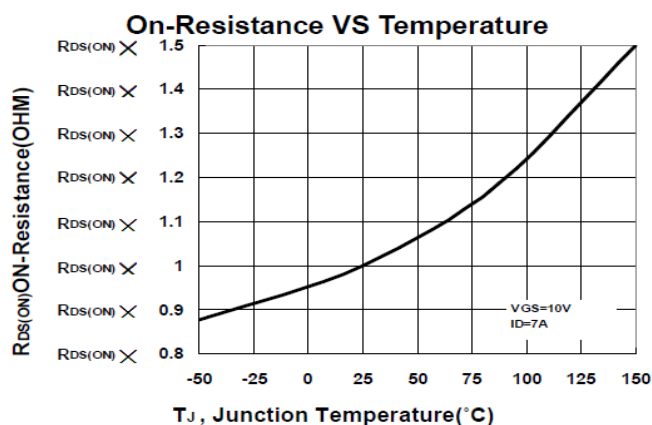
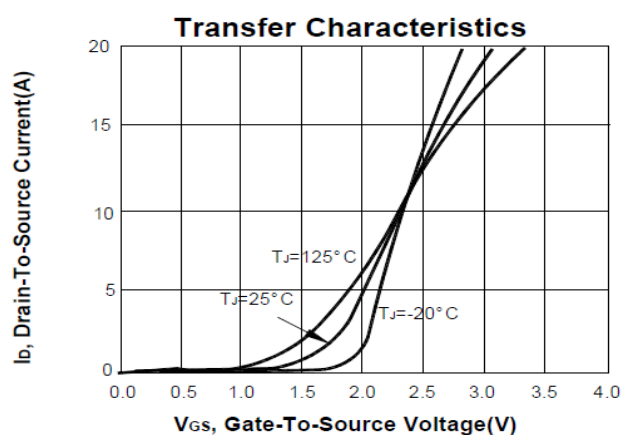
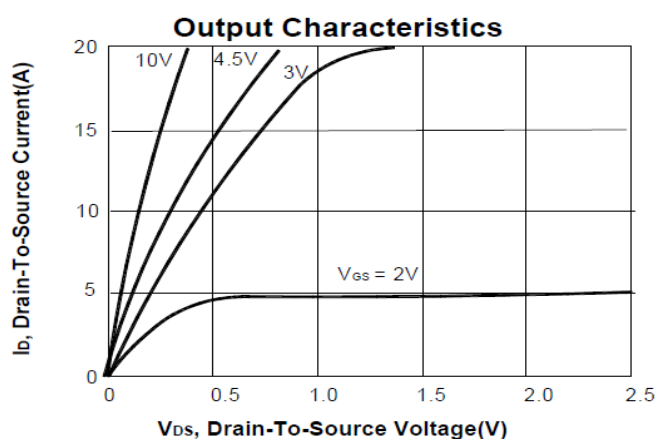
¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

²Independent of operating temperature.

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N- & P- Channel Enhancement Mode MOSFET

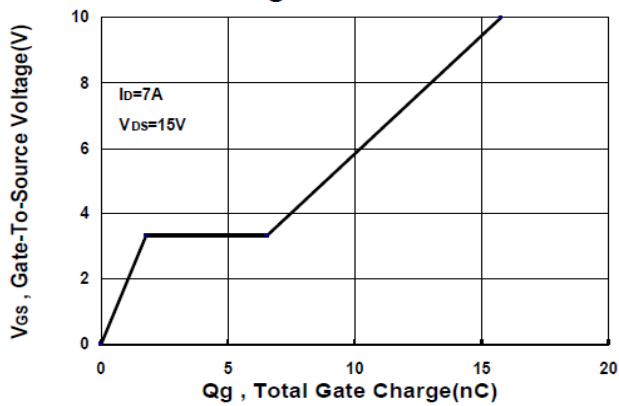
TYPICAL PERFORMANCE CHARACTERISTICS N-CHANNEL



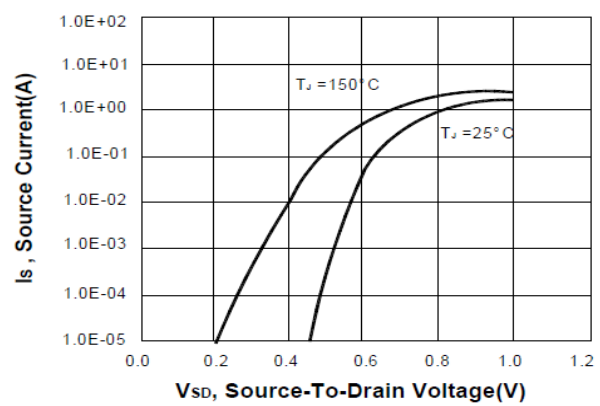
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N- & P- Channel Enhancement Mode MOSFET

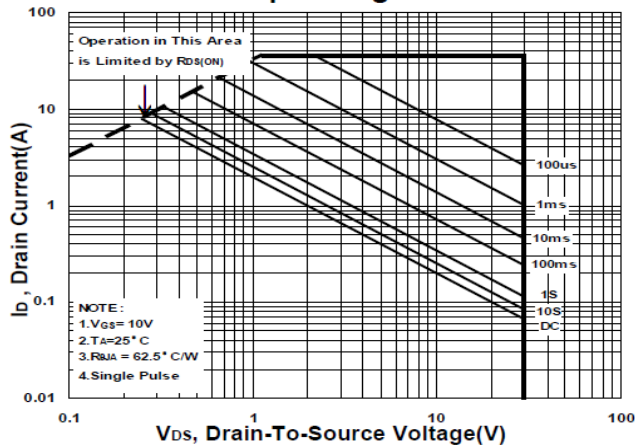
Gate charge Characteristics



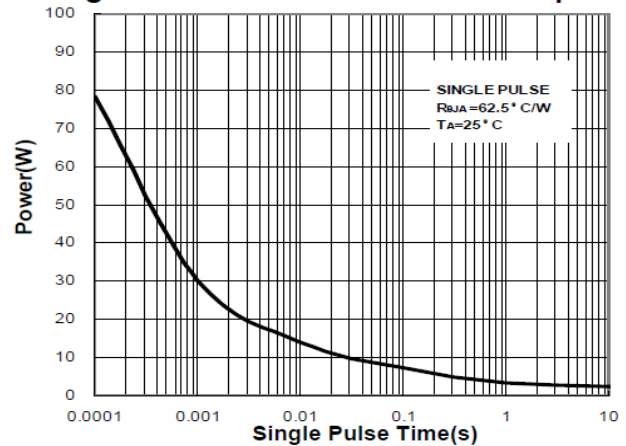
Source-Drain Diode Forward Voltage



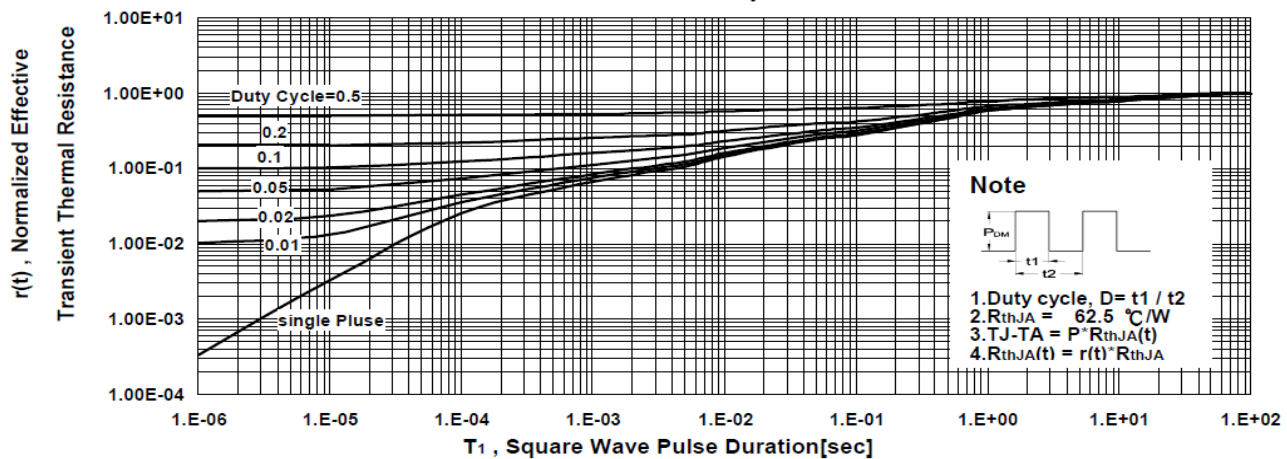
Safe Operating Area



Single Pulse Maximum Power Dissipation



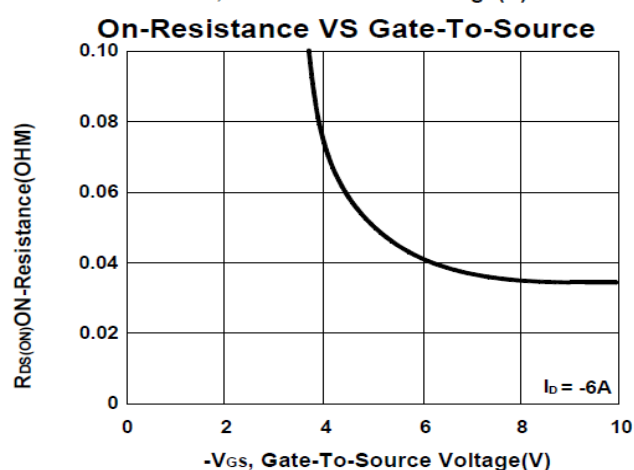
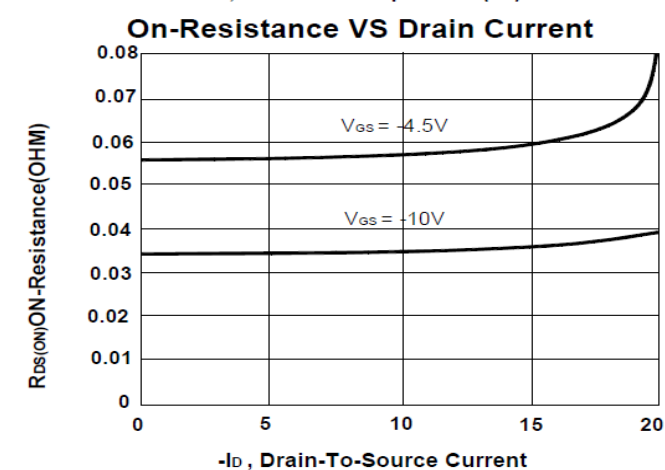
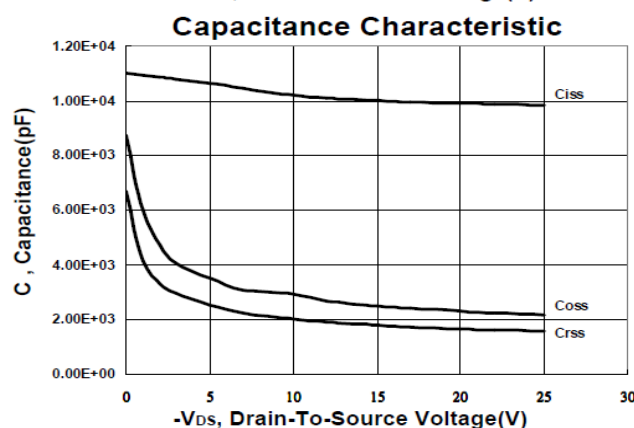
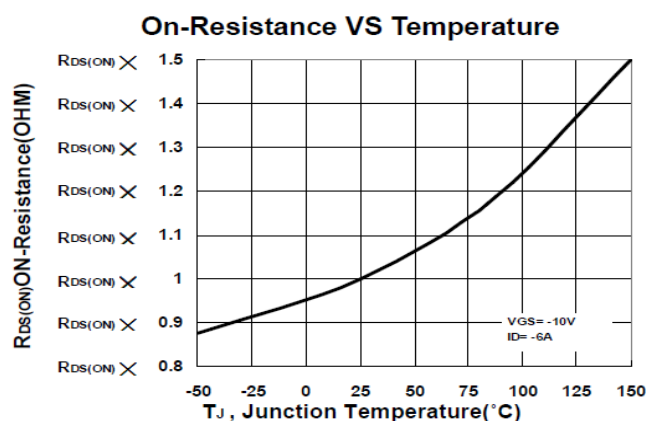
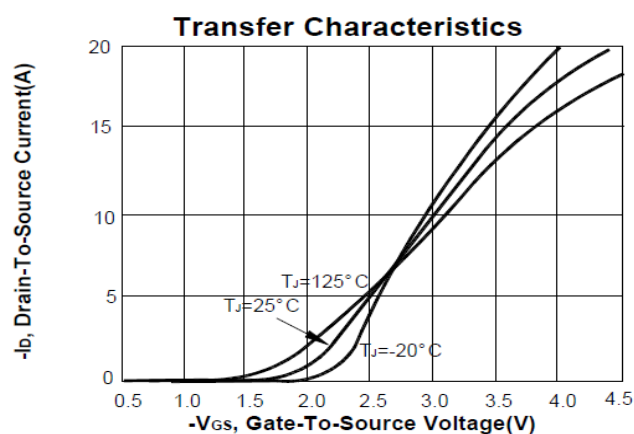
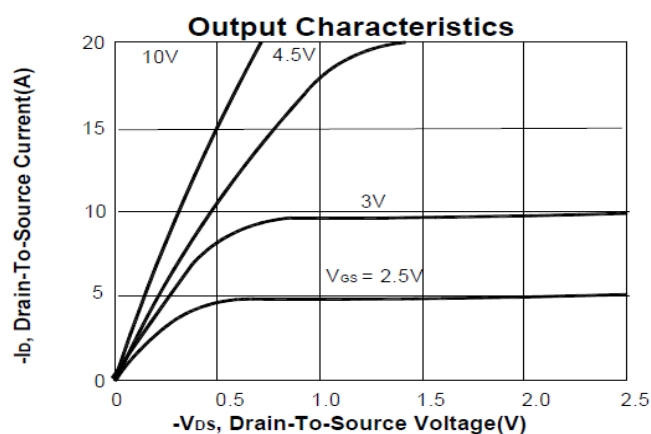
Transient Thermal Response Curve



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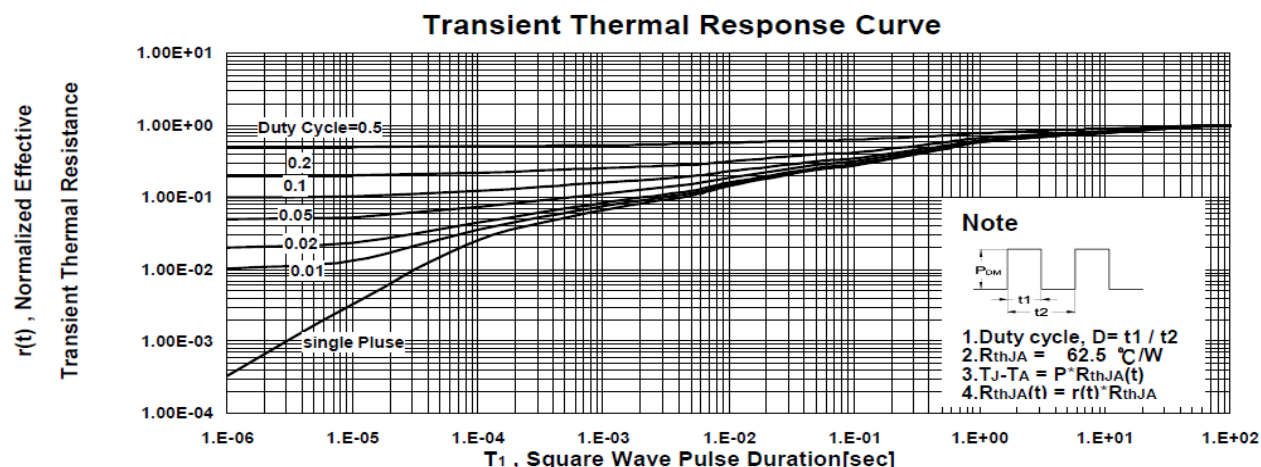
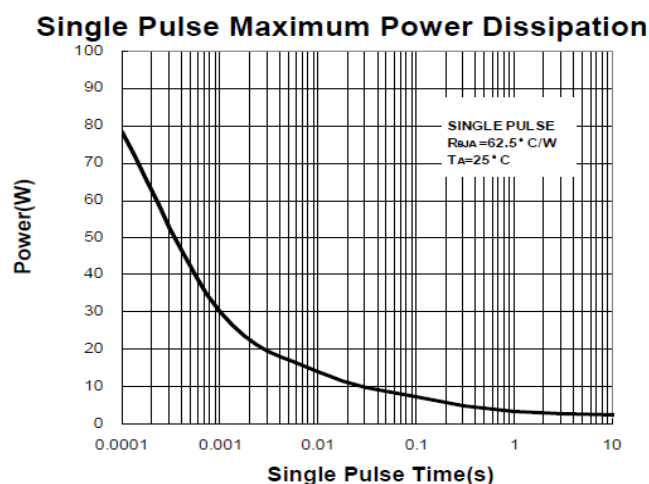
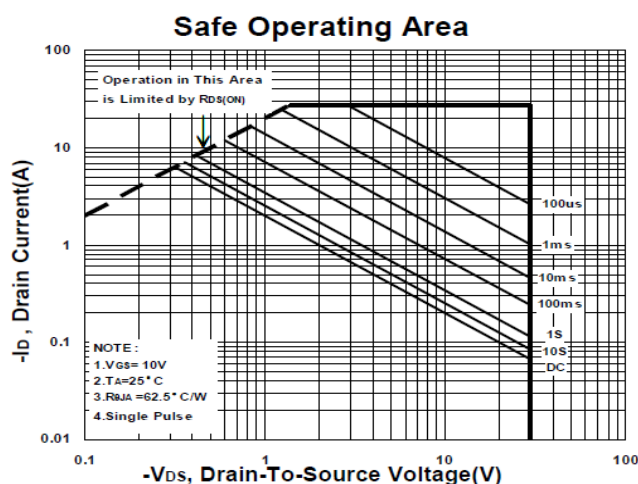
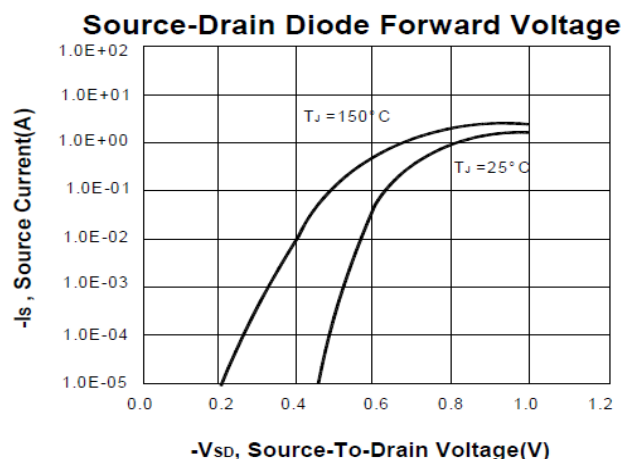
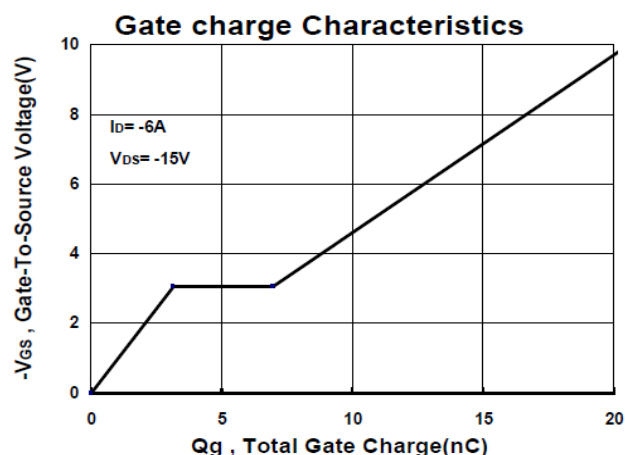
N- & P- Channel Enhancement Mode MOSFET

TYPICAL PERFORMANCE CHARACTERISTICS P-CHANNEL



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N- & P- Channel Enhancement Mode MOSFET



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N- & P- Channel Enhancement Mode MOSFET

Package Dimension

SOP-8 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.4	0.6	0.93
B	3.8	3.9	4.0	I	0.19	0.21	0.25
C	5.79	6.0	6.2	J	0.25	0.375	0.5
D	0.33	0.4	0.51	K	0°	3°	18°
E	1.25	1.27	1.29				
F	1.1	1.3	1.65				
G	0.05	0.15	0.25				

