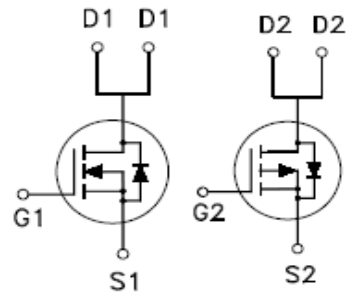
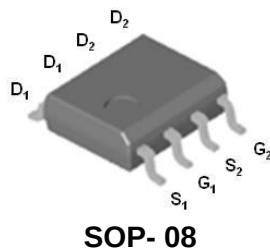


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PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D	Channel
30V	27.5mΩ @ $V_{GS} = 10V$	7A	N
-30V	34mΩ @ $V_{GS} = -10V$	-6A	P



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

PARAMETERS/TEST CONDITIONS		SYMBOL	CH.	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	N	30	V
			P	-30	
Gate-Source Voltage		V_{GS}	N	±20	
			P	±20	
Continuous Drain Current	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	N	7	A
			P	-6	
	$T_C = 70\text{ }^{\circ}\text{C}$		N	6	
			P	-5	
Pulsed Drain Current ¹		I_{DM}	N	20	W
			P	-20	
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	N	2	
			P	2	
	$T_C = 70\text{ }^{\circ}\text{C}$		N	1.3	
			P	1.3	
Junction & Storage Temperature Range		T_J, T_{STG}		-55 to 150	°C

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.

²Duty cycle $\leq 1\%$

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

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS	
			MIN	TYP	MAX		
STATIC							
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	N	30		V	
		$V_{GS} = 0V, I_D = -250\mu A$	P	-30			
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	N	1	1.5		2.5
		$V_{DS} = V_{GS}, I_D = -250\mu A$	P	-1	-1.5		-2.5
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$	N			± 100	nA
		$V_{DS} = 0V, V_{GS} = \pm 20V$	P			± 100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$	N			1	μA
		$V_{DS} = -24V, V_{GS} = 0V$	P			-1	
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 55^\circ C$	N			10	
		$V_{DS} = -20V, V_{GS} = 0V, T_J = 55^\circ C$	P			-10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	N	20			A
		$V_{DS} = -5V, V_{GS} = -10V$	P	-20			
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$	N		30	40	mΩ
		$V_{GS} = -4.5V, I_D = -5A$	P		43.5	56	
		$V_{GS} = 10V, I_D = 7A$	N		20.5	27.5	
		$V_{GS} = -10V, I_D = -6A$	P		27.5	34	
Forward Transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 7A$	N		16		S
		$V_{DS} = -5V, I_D = -6A$	P		13		

DYNAMIC							
Input Capacitance	C _{iss}	N-Channel V _{GS} = 0V, V _{DS} = 15V, f = 1MHz	N		680		pF
			P		920		
Output Capacitance	C _{oss}	P-Channel V _{GS} = 0V, V _{DS} = -15V, f = 1MHz	N		105		
			P		190		
Reverse Transfer Capacitance	C _{rss}		N		75		
			P		120		
Total Gate Charge ²	Q _g	N-Channel V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 10V, I _D = 7A	N		14		nC
			P		18.5		
Gate-Source Charge ²	Q _{gs}		N		1.9		
			P		2.7		
Gate-Drain Charge ²	Q _{gd}	P-Channel V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = -10V, I _D = -6A	N		3.3		
			P		4.5		

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DYNAMIC							
Turn-On Delay Time ²	t _{d(on)}	N-Channel V _{DD} = 10V I _D ≅ 1A, V _{GS} = 10V, R _{GEN} = 3Ω	N		4.6	7	nS
			P		7.7	11.5	
Rise Time ²	t _r		N		4	6	
			P		5.7	8.5	
Turn-Off Delay Time ²	t _{d(off)}	P-Channel V _{DD} = -10V I _D ≅ -1A, V _{GS} = -10V, R _{GEN} = 3Ω	N		20	30	
			P		20	30	
Fall Time ²	t _f		N		5	8	
			P		9.5	14	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T _C = 25 °C)							
Continuous Current	I _S		N			1.3	A
			P			-1.3	
Pulsed Current ³	I _{SM}		N			2.6	
			P			-2.6	
Forward Voltage ¹	V _{SD}	I _F = 1A, V _{GS} = 0V	N			1	V
		I _F = -1A, V _{GS} = 0V	P			-1	

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

²Independent of operating temperature.

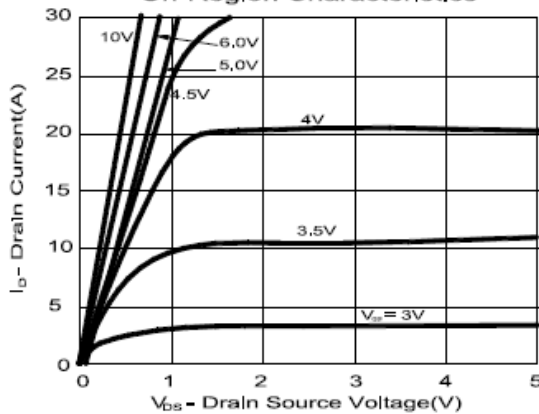
³Pulse width limited by maximum junction temperature.

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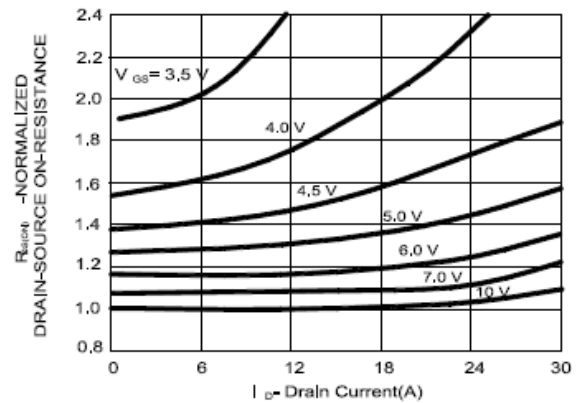
N&P-Channel Enhancement Mode MOSFET

N-CHANNEL

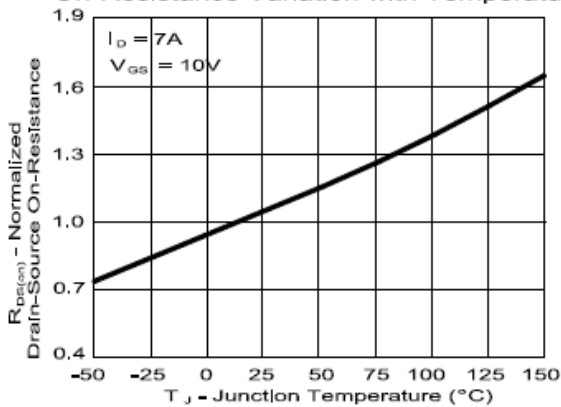
On-Region Characteristics



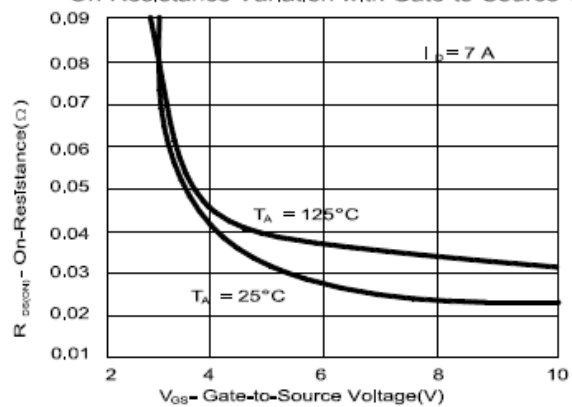
On-Resistance Variation with Drain Current and Gate Voltage



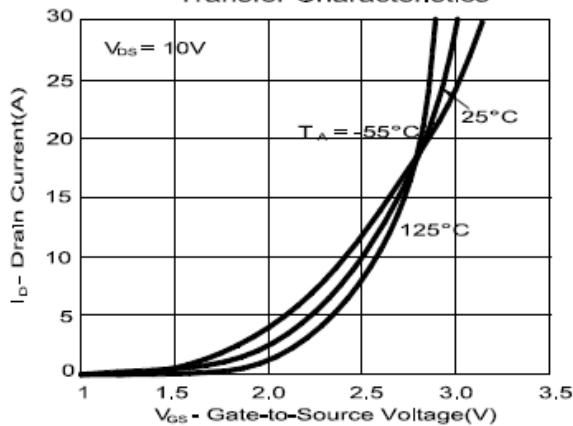
On-Resistance Variation with Temperature



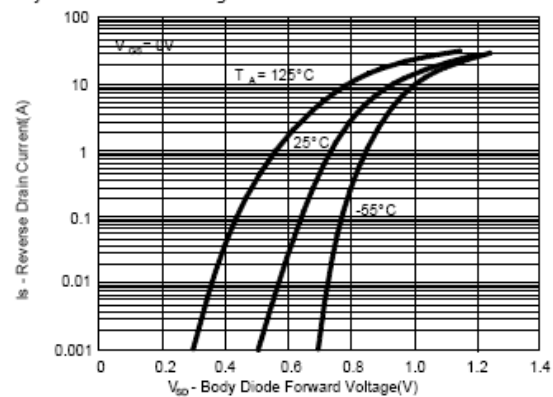
On-Resistance Variation with Gate-to-Source Voltage



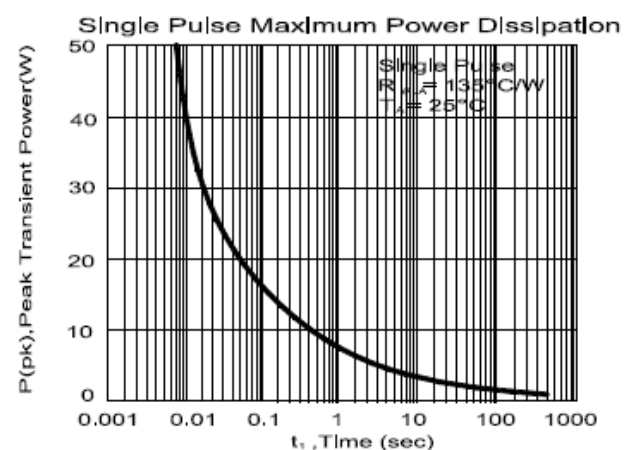
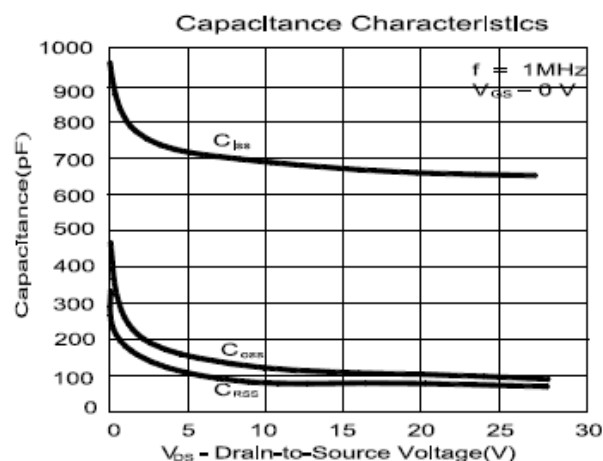
Transfer Characteristics



Body Diode Forward Voltage Variation with Source Current and Temperature



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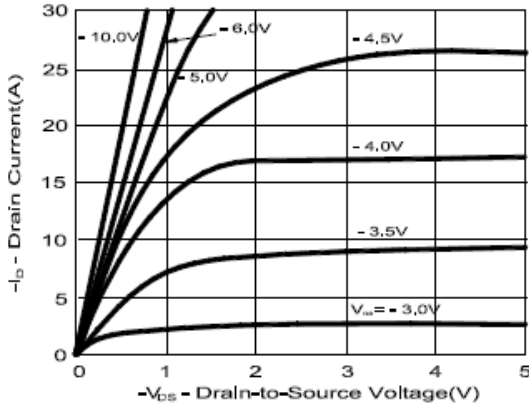


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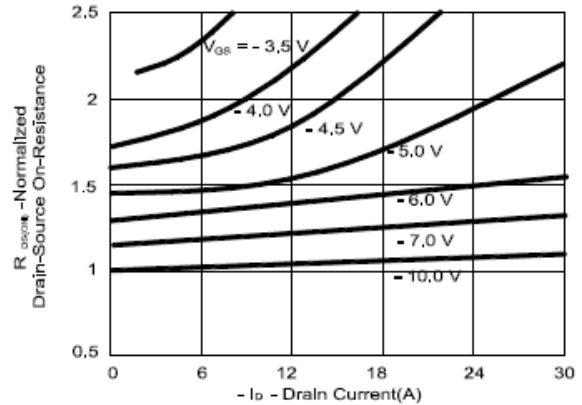
N&P-Channel Enhancement Mode MOSFET

P-CHANNEL

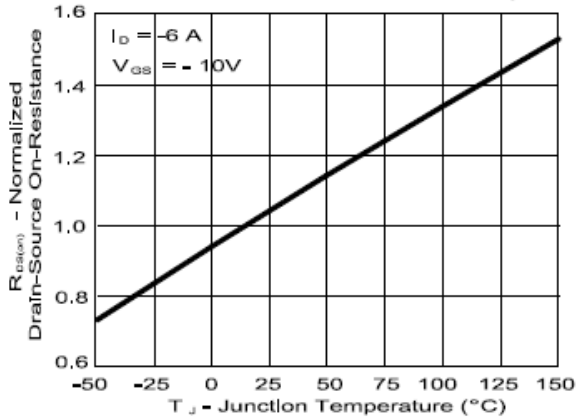
On-Region Characteristics



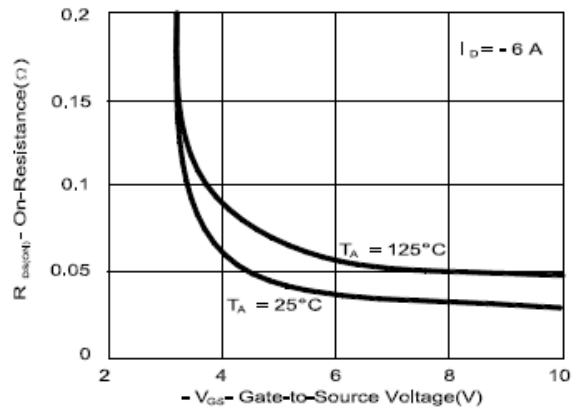
On-Resistance Variation with Drain Current and Gate Voltage



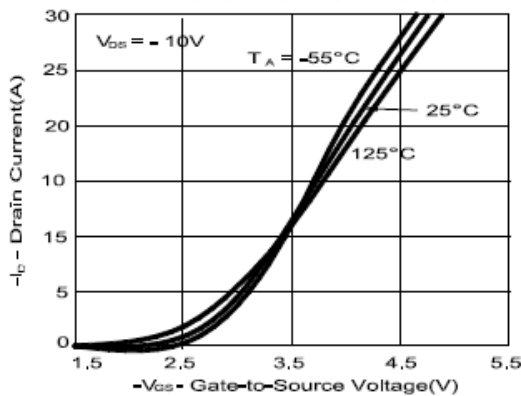
On-Resistance Variation with Temperature



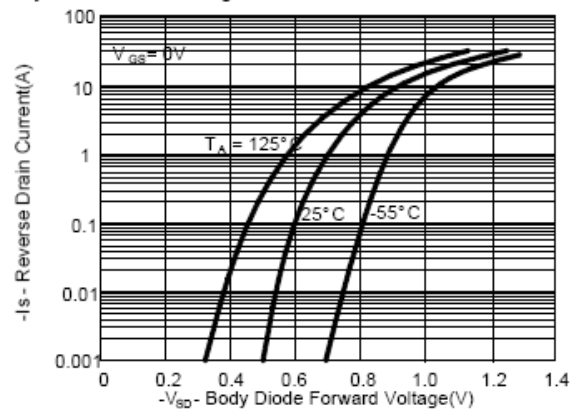
On-Resistance Variation with Gate-to-Source Voltage



Transfer Characteristics

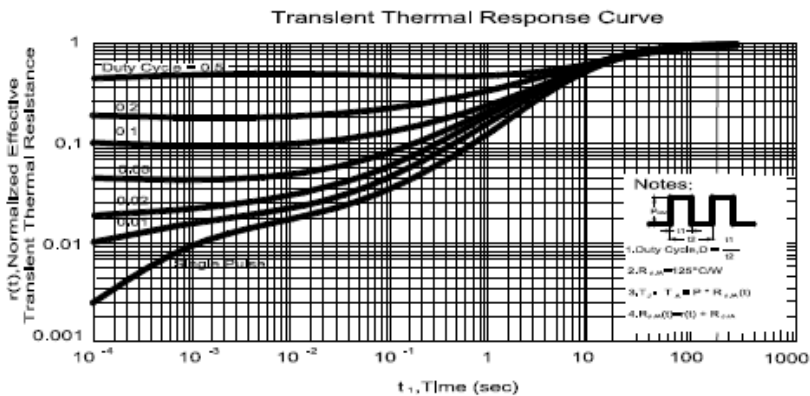
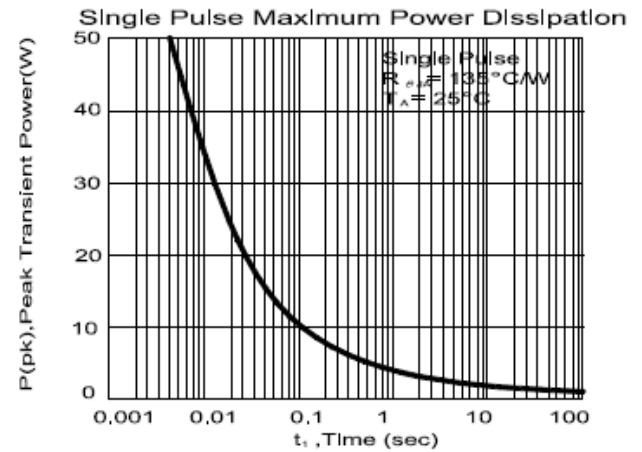
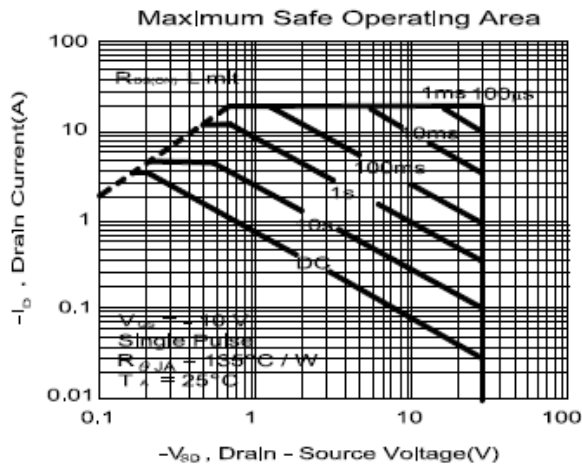
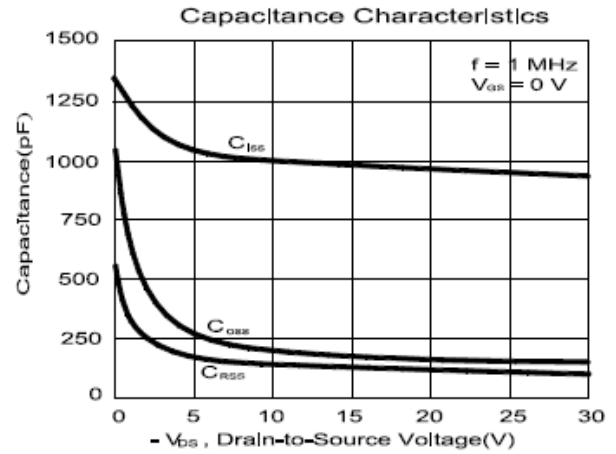
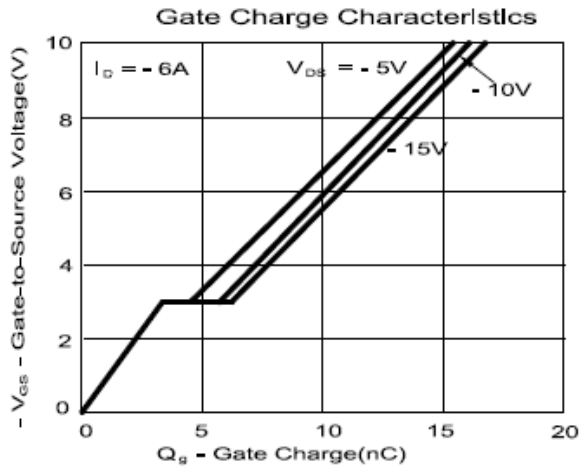


Body Diode Forward Voltage Variation with Source Current and Temperature



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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				

