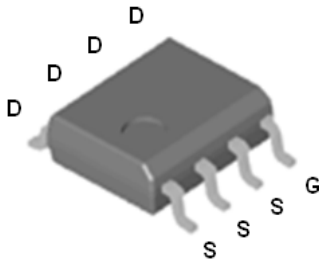


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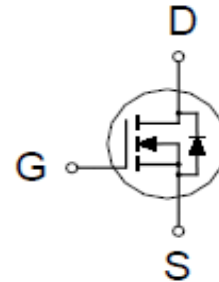
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
100V	30mΩ @ $V_{GS} = 10V$	5.8A



SOP-8



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		
Continuous Drain Current	I_D	$T_A = 25\text{ °C}$	5.8	A
		$T_A = 70\text{ °C}$	4.6	
Pulsed Drain Current ¹	I_{DM}	37		
Avalanche Current	I_{AS}	12		
Avalanche Energy	E_{AS}	72	mJ	
Power Dissipation	P_D	$T_A = 25\text{ °C}$	2.3	W
		$T_A = 70\text{ °C}$	1.5	
Junction & Storage Temperature Range	T_j, T_{stg}	-55 to 150	°C	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		53	°C / W
Junction-to-Case	$R_{\theta JC}$		25	

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 $T_A = 25\text{ °C}$.

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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	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.3	1.8	2.3	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±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 = 55 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 5A		27	35	mΩ
		V _{GS} = 10V, I _D = 5A		25.5	30	
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 5A		46		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		1908		pF
Output Capacitance	C _{oss}			138		
Reverse Transfer Capacitance	C _{rss}			87		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		0.8		Ω
Total Gate Charge ²	Q _g	V _{DS} = 50V, I _D = 5A, V _{GS} = 10V		41		nC
Gate-Source Charge ²	Q _{gs}			5.6		
Gate-Drain Charge ²	Q _{gd}			12.5		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 50V, I _D ≅ 5A, V _{GS} = 10V, R _{GEN} = 6Ω		16		nS
Rise Time ²	t _r			45		
Turn-Off Delay Time ²	t _{d(off)}			47		
Fall Time ²	t _f			38		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current	I _S				1.9	A
Forward Voltage ¹	V _{SD}	I _F = 5A, V _{GS} = 0V			1.2	V
Diode Reverse Recovery Time	t _{rr}	I _F = 5A, dI/dt = 100A / μS		28		nS
Diode Reverse Recovery Charge	Q _{rr}				25	

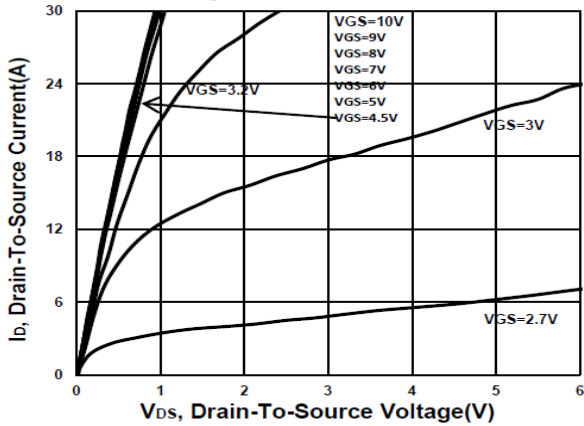
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

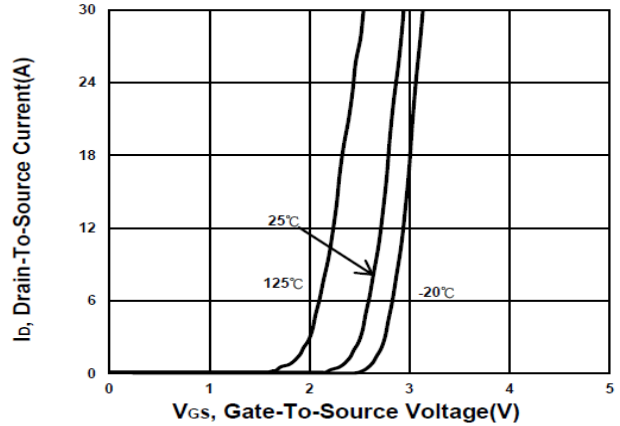
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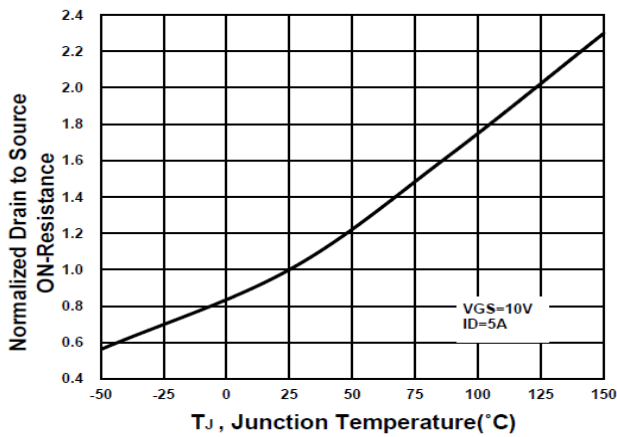
Output Characteristics



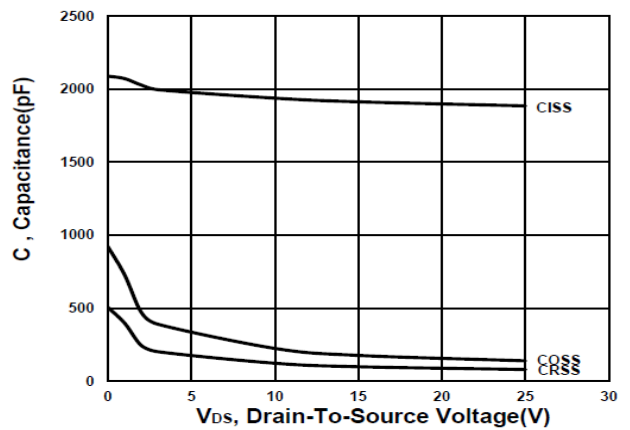
Transfer Characteristics



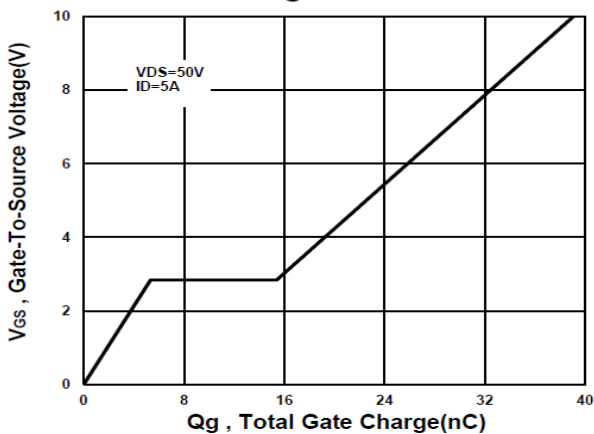
On-Resistance VS Temperature



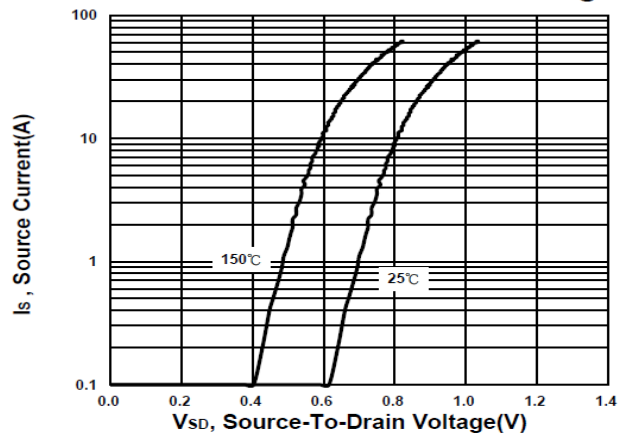
Capacitance Characteristic



Gate charge Characteristics



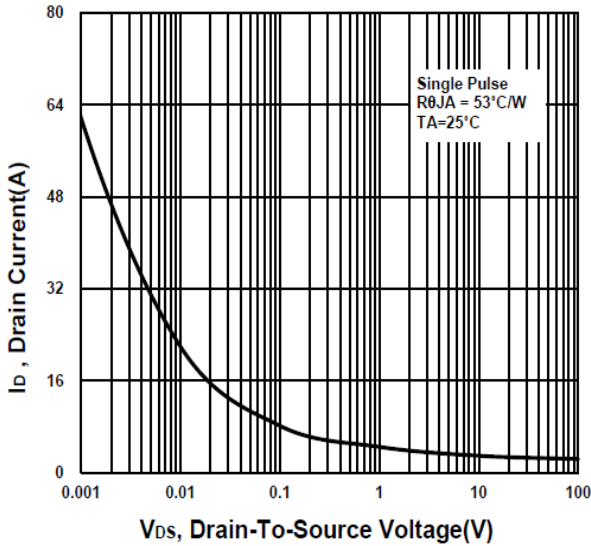
Source-Drain Diode Forward Voltage



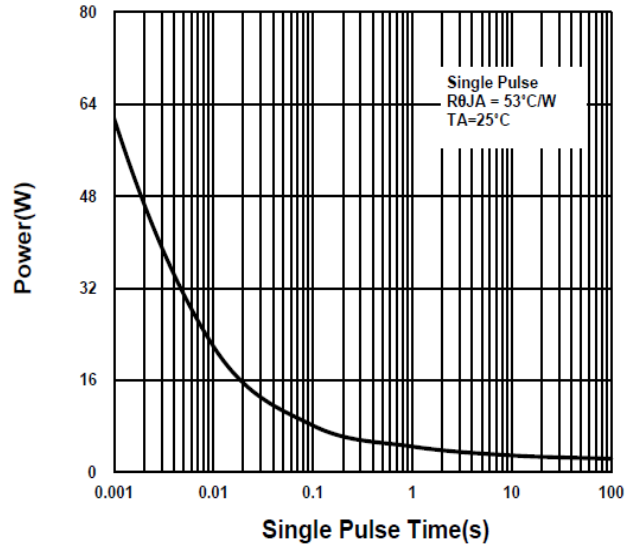
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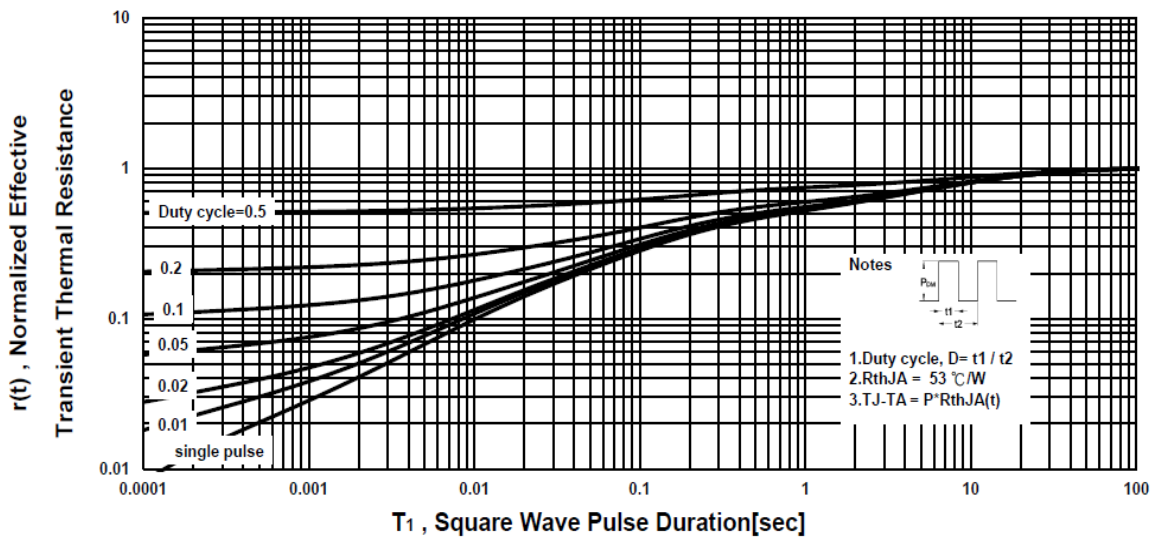
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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N-Channel Logic Level 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				

