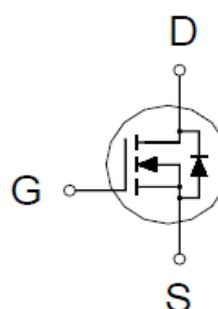
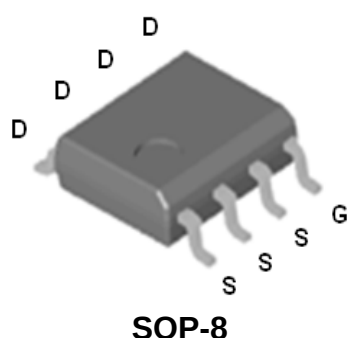


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PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
40V	15mΩ @ $V_{GS} = 10V$	9A



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	$T_A = 25\text{ °C}$	I_D	9	A
	$T_A = 70\text{ °C}$		7.5	
Pulsed Drain Current ¹		I_{DM}	35	
Avalanche Current		I_{AS}	32	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	52	mJ
Power Dissipation	$T_A = 25\text{ °C}$	P_D	2.5	W
	$T_A = 70\text{ °C}$		1.6	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		25	°C / W
Junction-to-Ambient	$R_{\theta JA}$		50	

¹Pulse width limited by maximum junction temperature.

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ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	40			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.6	1.9	3	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 20V, V_{GS} = \pm 20V$			± 250	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 32V, V_{GS} = 0V$			1	μA
		$V_{DS} = 30V, V_{GS} = 0V, T_J = 125^\circ C$			10	
On-State Drain Current ¹	$I_{D(ON)}$	$V_{DS} = 10V, V_{GS} = 10V$	35			A
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 9A$		12.7	15	mΩ
Forward Transconductance ¹	g_{fs}	$V_{DS} = 20V, I_D = 9A$		60		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		1183		pF
Output Capacitance	C_{oss}			252		
Reverse Transfer Capacitance	C_{rss}			168		
Total Gate Charge ²	Q_g	$V_{DS} = 20V, V_{GS} = 10V, I_D = 9A$		24.8		nC
Gate-Source Charge ²	Q_{gs}			7.4		
Gate-Drain Charge ²	Q_{gd}			4.6		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DD} = 20V, I_D \cong 9A, V_{GS} = 10V, R_{GEN} = 6\Omega$		32		nS
Rise Time ²	t_r			20		
Turn-Off Delay Time ²	$t_{d(off)}$			70		
Fall Time ²	t_f			26		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS($T_J = 25^\circ C$)						
Continuous Current	I_S				9	A
Pulsed Body-Diode Current ³	I_{SM}				35	
Forward Voltage ¹	V_{SD}	$I_F = 9A, V_{GS} = 0V$			1.26	V
Reverse Recovery Time	t_{rr}	$I_F = 9A, di_F/dt = 100A/\mu S$		27		nS
Reverse Recovery Charge	Q_{rr}			20		nC

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

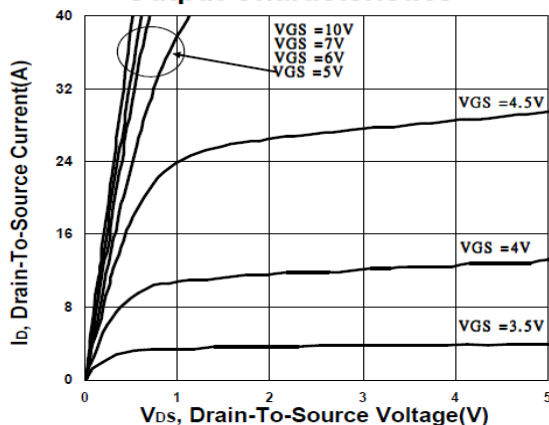
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

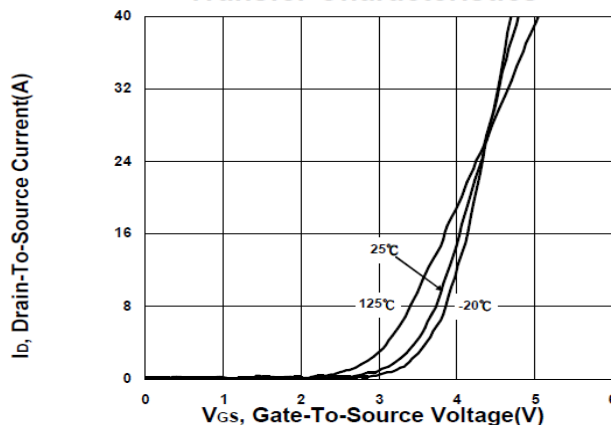
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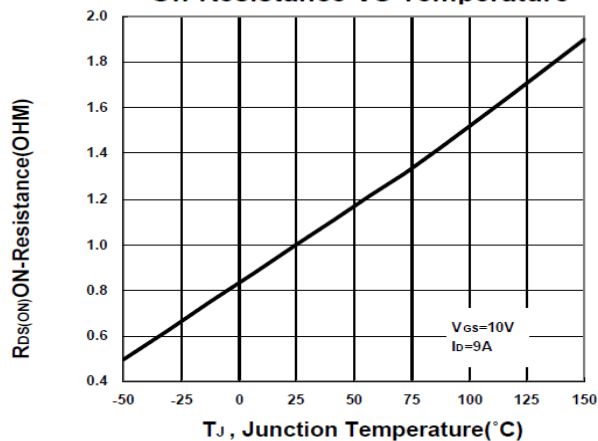
Output Characteristics



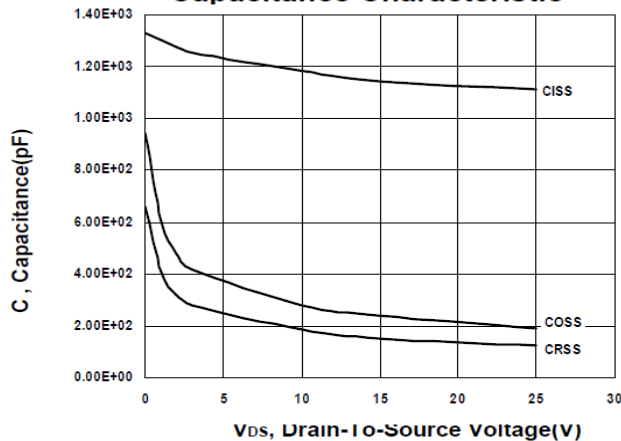
Transfer Characteristics



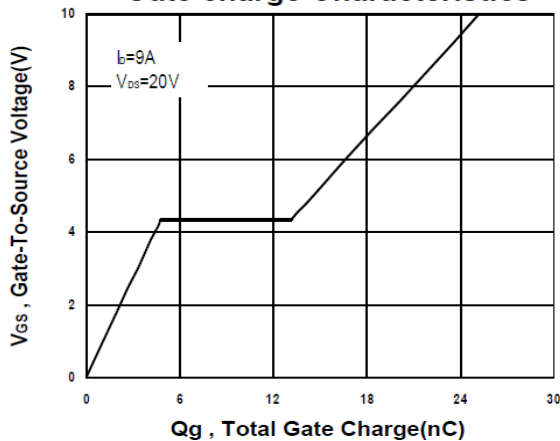
On-Resistance VS Temperature



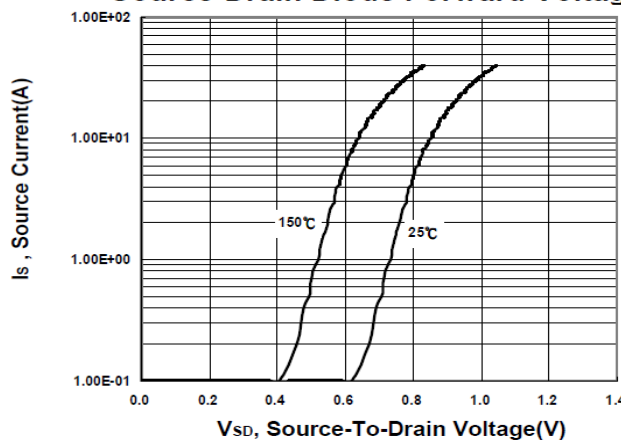
Capacitance Characteristic



Gate charge Characteristics



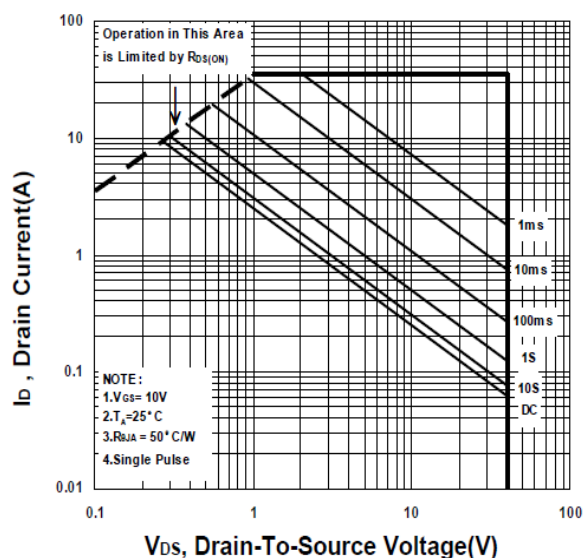
Source-Drain Diode Forward Voltage



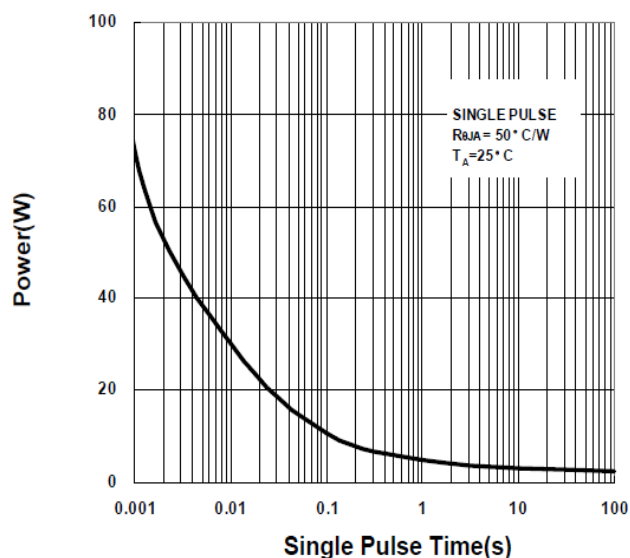
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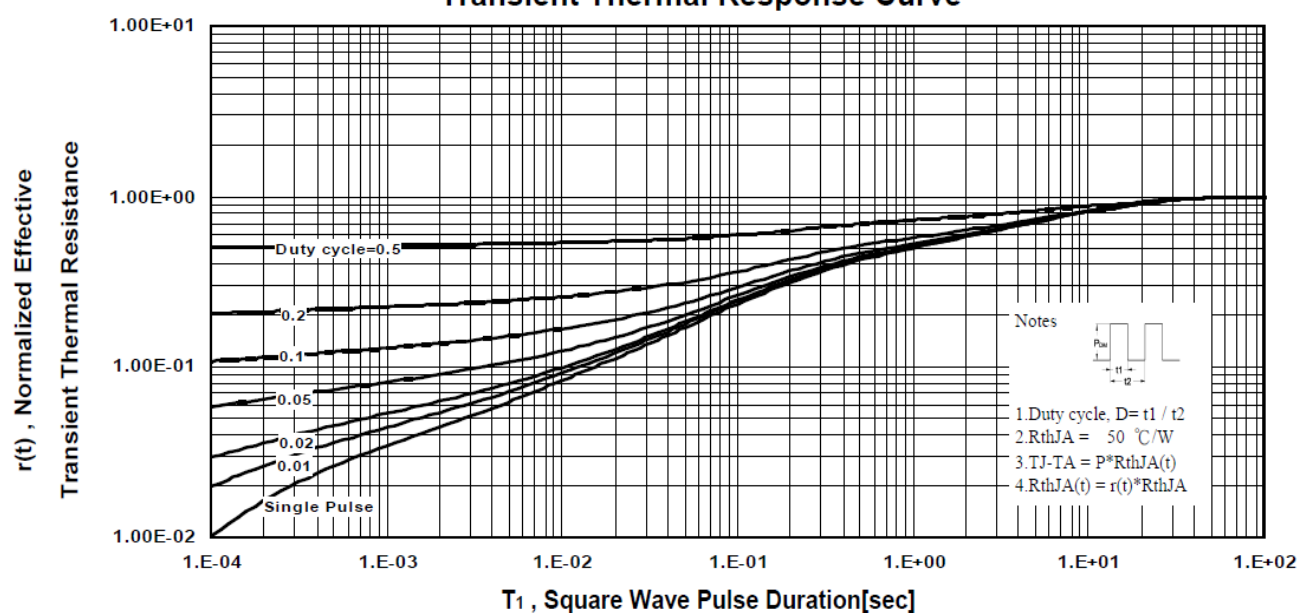
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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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				

