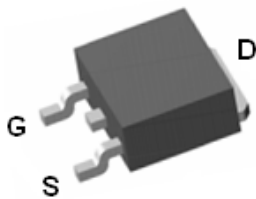


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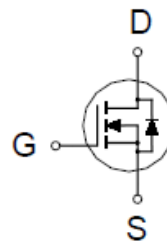
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
200V	$0.42\Omega @ V_{GS} = 10V$	9A



TO-252



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

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	$T_C = 25\text{ }^\circ\text{C}$	9
		$T_C = 100\text{ }^\circ\text{C}$	5
Pulsed Drain Current ¹	I_{DM}	31	A
Avalanche Current	I_{AS}	9	
Avalanche Energy	E_{AS}	113	mJ
Power Dissipation	P_D	$T_C = 25\text{ }^\circ\text{C}$	62.5
		$T_C = 100\text{ }^\circ\text{C}$	25
Operating Junction & Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		2	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

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

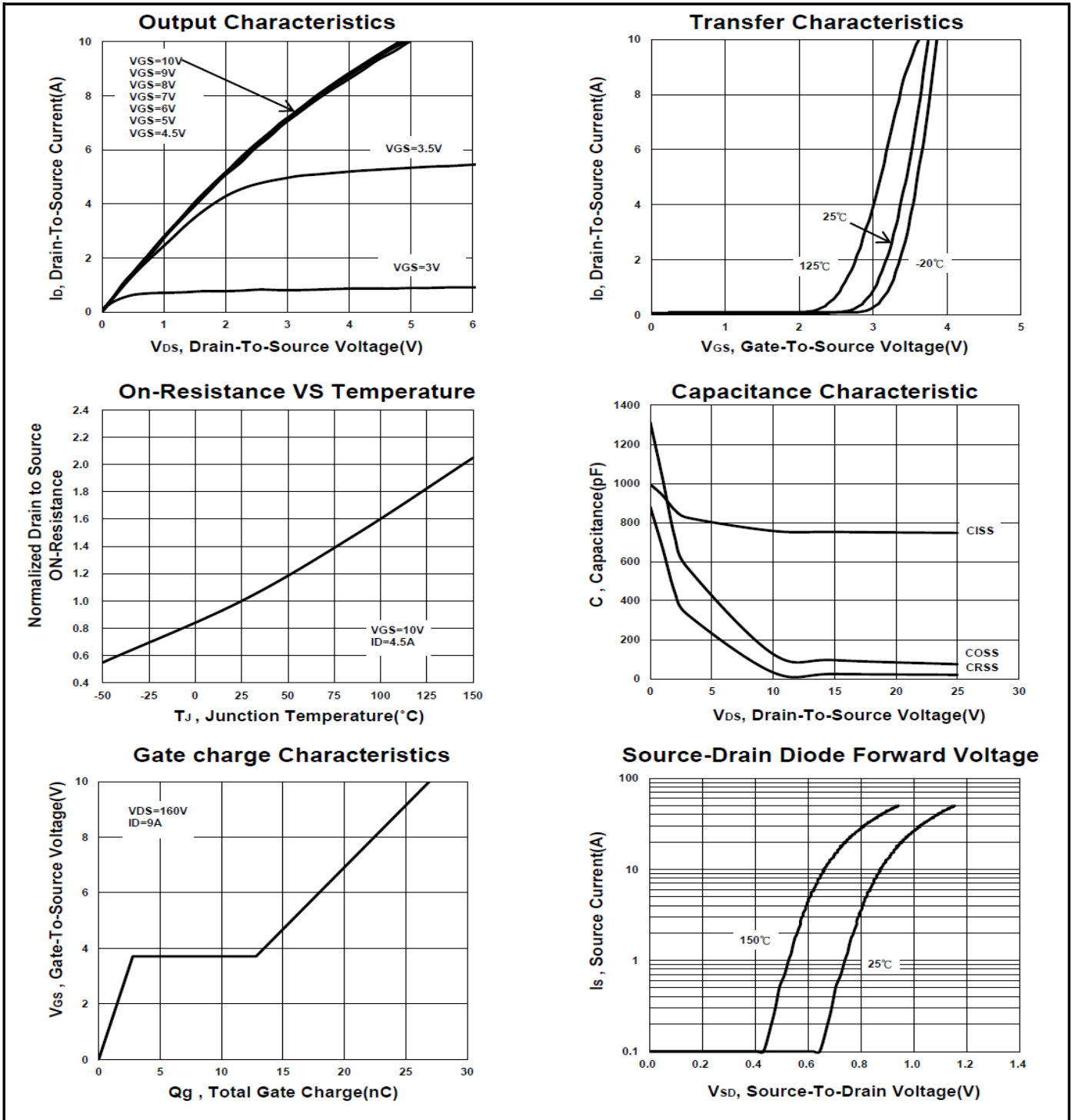
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	200			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	2.0	3	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 200V, V _{GS} = 0V			1	μA
		V _{DS} = 160V, V _{GS} = 0V, T _J = 125 °C			10	
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 4.5A		0.35	0.48	Ω
		V _{GS} = 10V, I _D = 4.5A		0.33	0.42	
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 4.5A		10		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		759		nF
Output Capacitance	C _{oss}			77		
Reverse Transfer Capacitance	C _{rss}			21		
Total Gate Charge ²	Q _g	V _{GS} = 10V, V _{DS} = 160V, I _D = 9A		29.5		nC
Gate-Source Charge ²	Q _{gs}			2.8		
Gate-Drain Charge ²	Q _{gd}			11		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 100V, I _D ≅ 9A, V _{GS} = 10V, R _{GEN} = 6Ω		28		nS
Rise Time ²	t _r			99		
Turn-Off Delay Time ²	t _{d(off)}			85		
Fall Time ²	t _f			97		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current ²	I _S				9	A
Forward Voltage ¹	V _{SD}	I _F = 9A, V _{GS} = 0V			1.6	V
Reverse Recovery Time	t _{rr}	I _F = 9A, dI _F /dt = 100A / μS		159		nS
Reverse Recovery Charge	Q _{rr}				822	

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

²Independent of operating temperature.

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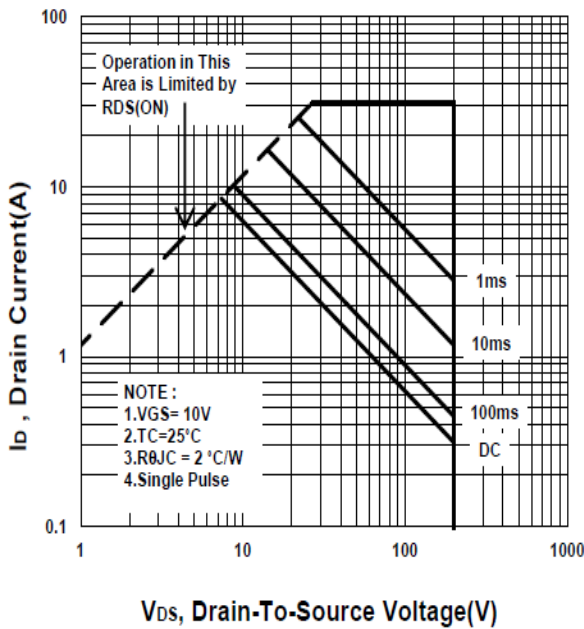
N-Channel Enhancement Mode MOSFET



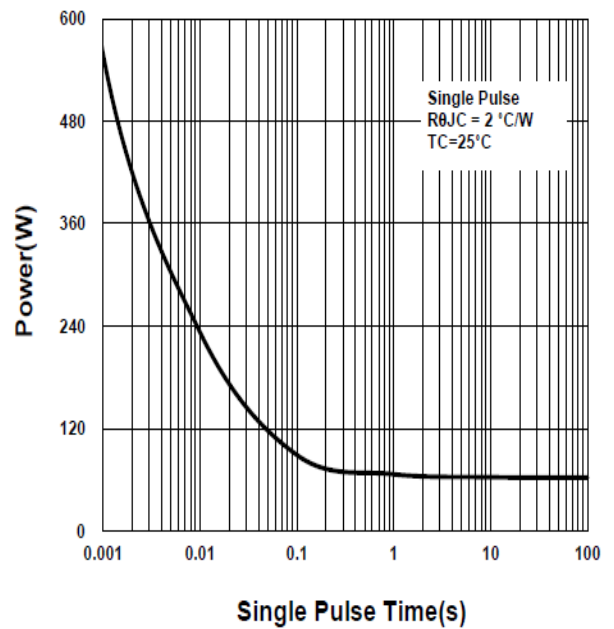
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N-Channel Enhancement Mode MOSFET

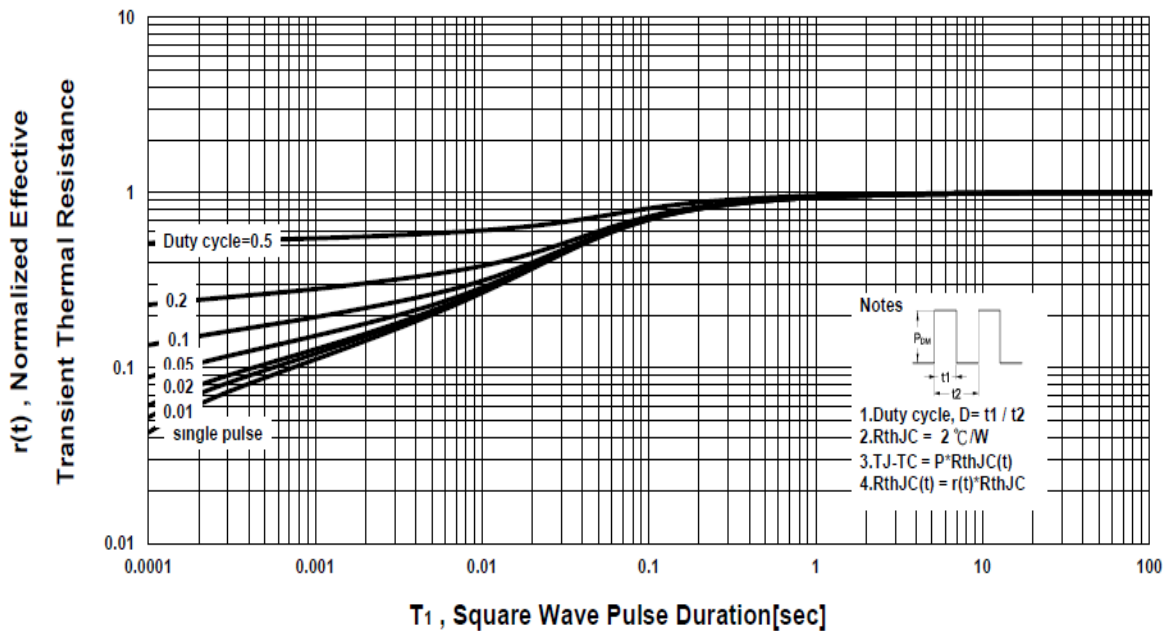
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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N-Channel Enhancement Mode MOSFET

Package Dimension

TO-252 (DPAK) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	8.9	10	10.41	J	4.8		5.64
B	2.1	2.2	2.5	K	0.15		1.49
C	0.4	0.5	0.61	L	0.4	0.76	0.91
D	0.82	1.2	1.5	M	4.2	4.58	5
E	0.35	0.5	0.65	S	4.57	5.1	5.52
F	0		0.2	T	3.81	4.75	5.24
G	5.3	6.1	6.3	U	1.4		1.78
H	0.5		1.7	V	0.55	1.25	1.7
I	6.3	6.5	6.8				

