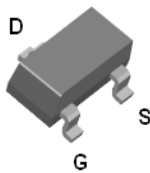


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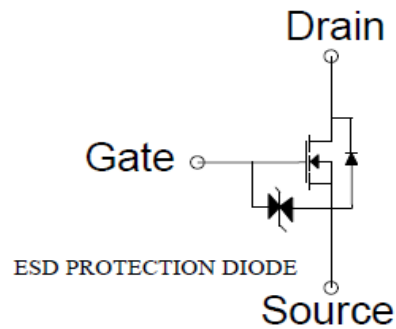
N-Channel Enhancement Mode MOSFET

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
60V	$2\Omega @V_{GS} = 10V$	300mA



SOT-23(S)



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 25	
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	I_D	300	mA
	$T_C = 100\text{ }^\circ\text{C}$		190	
Pulsed Drain Current ¹		I_{DM}	1	A
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	P_D	0.35	W
	$T_C = 100\text{ }^\circ\text{C}$		0.14	
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-40 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		350	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

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N-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 = 100μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 100μA	1.0	1.8	2.5	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±16V			±30	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 48V, V _{GS} = 0V			1	μA
		V _{DS} = 40V, V _{GS} = 0V, T _J = 125 °C			10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 10V, V _{GS} = 10V	1			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 3.5V, I _D = 10mA		2.1	5	Ω
		V _{GS} = 4.5V, I _D = 100mA		1.7	3	
		V _{GS} = 10V, I _D = 200mA		1.6	2	
Forward Transconductance ¹	g _{fs}	V _{DS} = 20V, I _D = 200mA		0.18		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		36		pF
Output Capacitance	C _{oss}			10		
Reverse Transfer Capacitance	C _{rss}			6		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 10V, I _D = 200mA		1.6		nC
Gate-Source Charge ²	Q _{gs}			0.2		
Gate-Drain Charge ²	Q _{gd}			1		
Turn-On Delay Time ²	t _{d(on)}	V _{DD} = 30V I _D = 200mA, V _{GS} = 10V, R _G = 10Ω		30		nS
Turn-Off Delay Time ²	t _{d(off)}			125		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTIC (T_J = 25 °C)						
Continuous Current	I _S	I _F = 200mA, V _{GS} = 0V			300	mA
Forward Voltage ¹	V _{SD}				1.2	V

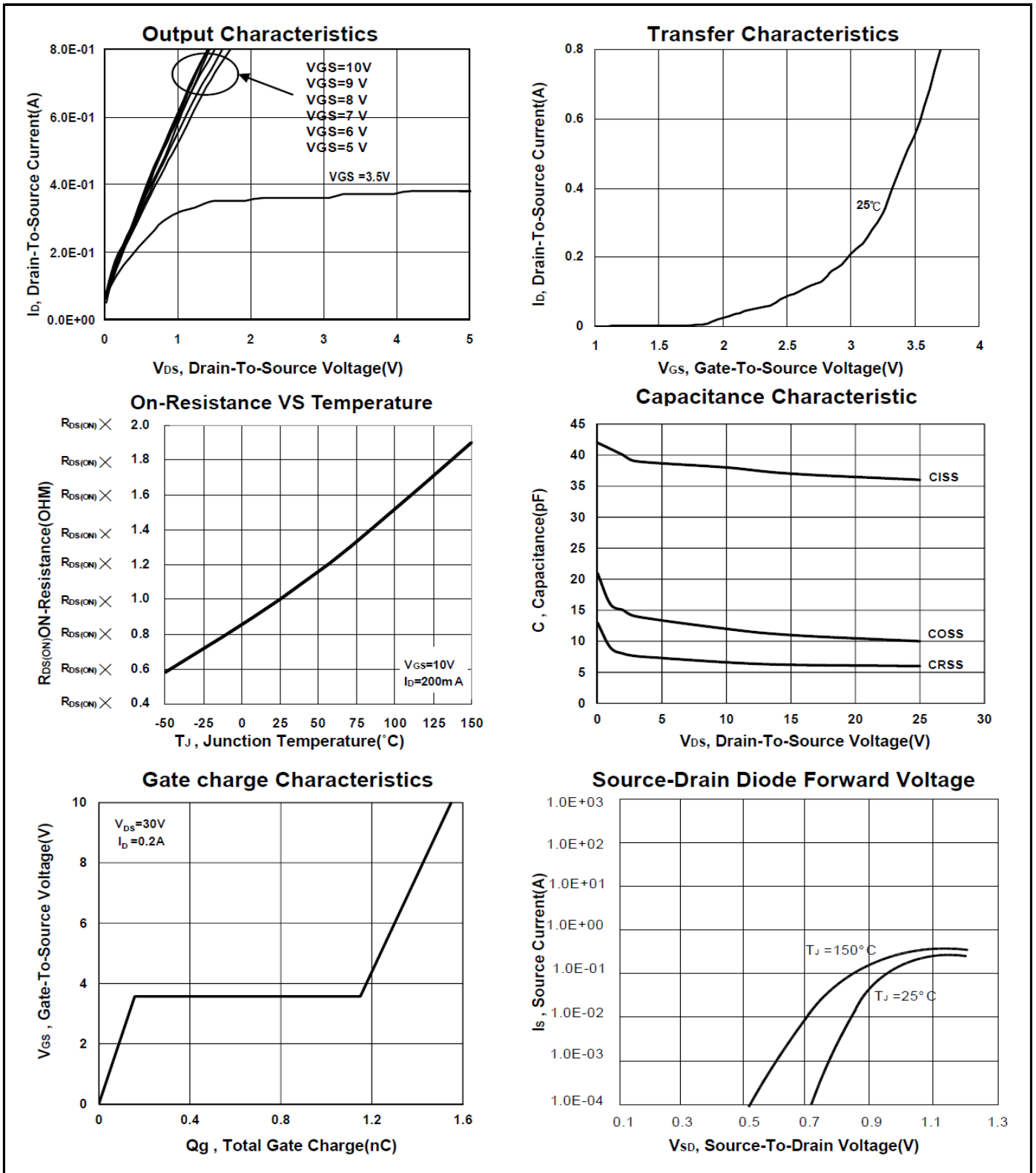
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

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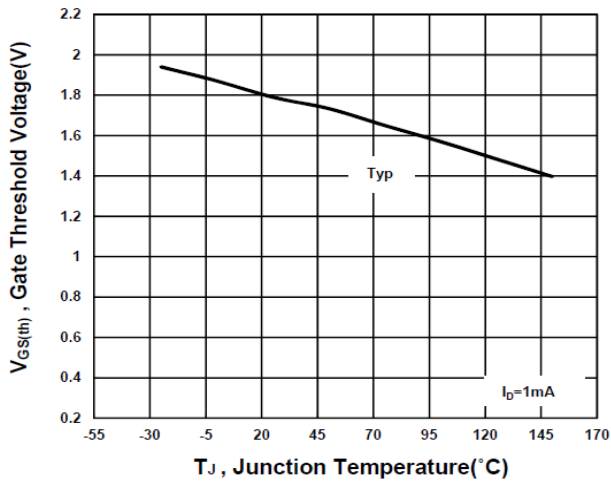
N-Channel Enhancement Mode MOSFET



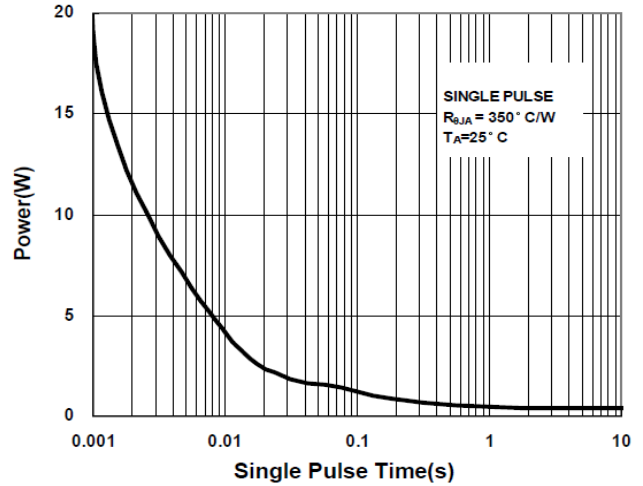
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N-Channel Enhancement Mode MOSFET

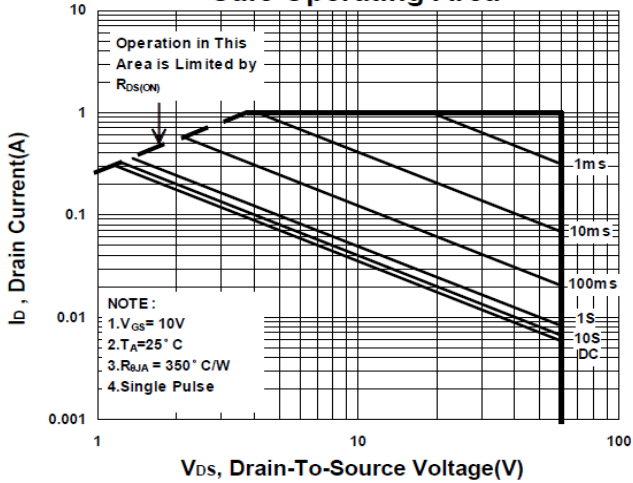
Gate Threshold Voltage VS Temperature



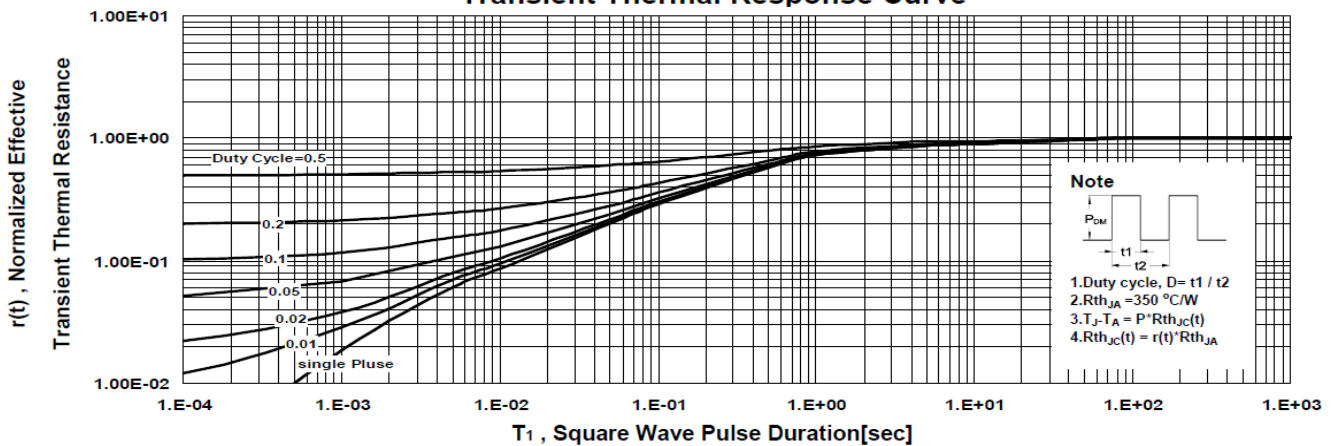
Single Pulse Maximum Power Dissipation



Safe Operating Area



Transient Thermal Response Curve



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Package Dimension

SOT-23 (S) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.9		1	H	0.08		0.2
B	2.25		2.85	I	0.15		0.6
C	1.2		1.4				
D	2.8		3.04				
E	0.89		1.2				
F	0		0.1				
G	0.3		0.5				

