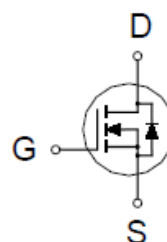
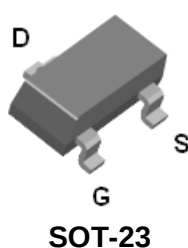


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PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
20V	50mΩ @ $V_{GS} = 4.5V$	4A



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

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	
Continuous Drain Current	$T_A = 25\text{ }^{\circ}\text{C}$	I_D	4	A
	$T_A = 70\text{ }^{\circ}\text{C}$		3.2	
Pulsed Drain Current ¹		I_{DM}	20	
Power Dissipation	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	1.3	W
	$T_A = 70\text{ }^{\circ}\text{C}$		1	
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-Ambient ³	$R_{\theta JA}$		100	$^{\circ}\text{C} / \text{W}$

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			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.4	0.7	1.2	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±8V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA
		V _{DS} = 10V, V _{GS} = 0V , T _J = 55 °C			10	
On-State Drain Current ¹	I _{D(ON)}	V _{DS} = 5V, V _{GS} = 4.5V	20			A
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 2.5V, I _D = 1.5A		50	85	mΩ
		V _{GS} = 4.5V, I _D = 3A		37	50	
Forward Transconductance ¹	g _{fs}	V _{DS} = 5V, I _D = 3A		15		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 10V, f = 1MHz		236		pF
Output Capacitance	C _{oss}			75		
Reverse Transfer Capacitance	C _{rss}			69		
Total Gate Charge ²	Q _g	V _{DS} = 0.5V _{(BR)DSS} , V _{GS} = 4.5V, I _D = 3A		4.7		nC
Gate-Source Charge ²	Q _{gs}			0.5		
Gate-Drain Charge ²	Q _{gd}			2.4		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 10V I _D ≅ 3A, V _{GS} = 4.5V, R _{GS} = 6Ω		5		nS
Rise Time ²	t _r			72		
Turn-Off Delay Time ²	t _{d(off)}			25		
Fall Time ²	t _f			11		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICE (T _J = 25 °C)						
Continuous Current	I _S				4	A
Forward Voltage ¹	V _{SD}	I _F = 3A, V _{GS} = 0V			1.3	V
Reverse Recovery Time	t _{rr}	I _F = 3A, dI _F /dt = 100 A/μs		9.6		nS
Reverse Recovery Charge	Q _{rr}			2		nC

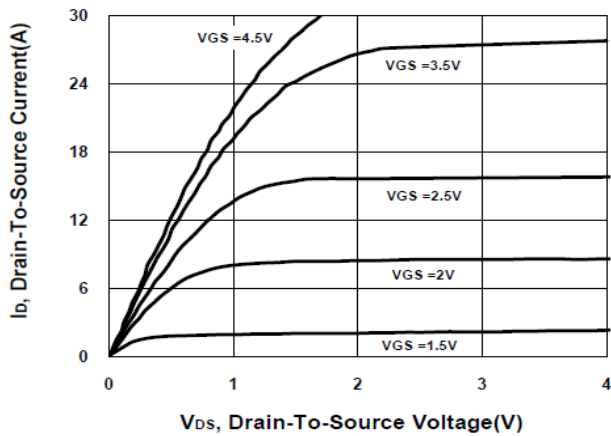
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

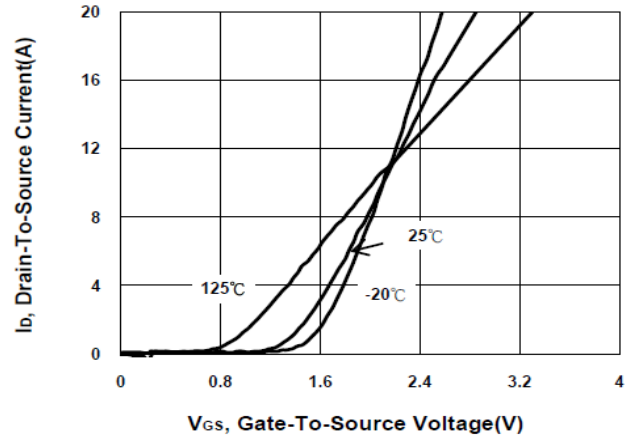
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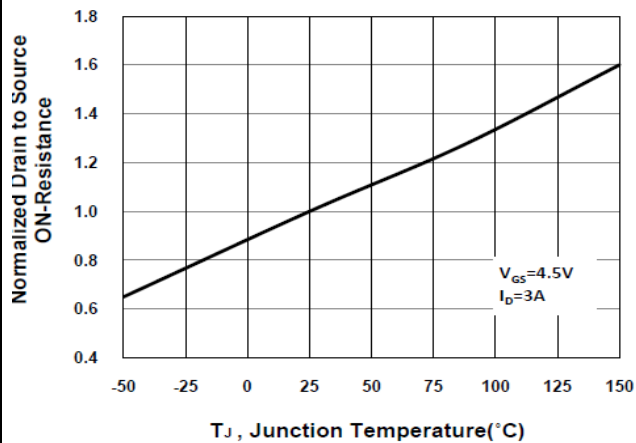
Output Characteristics



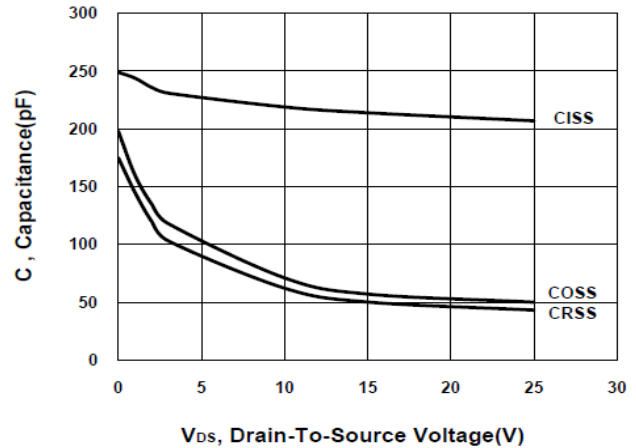
Transfer Characteristics



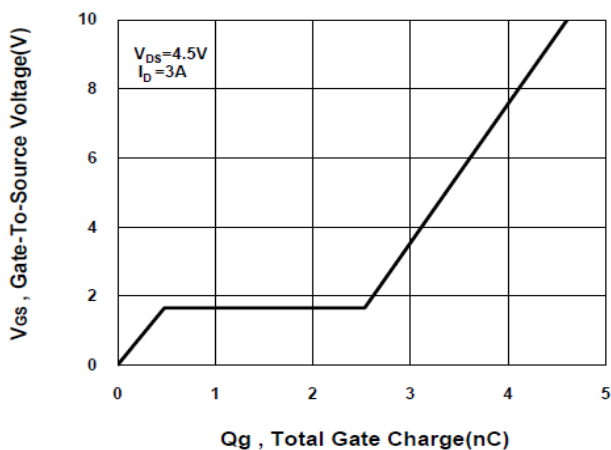
On-Resistance VS Temperature



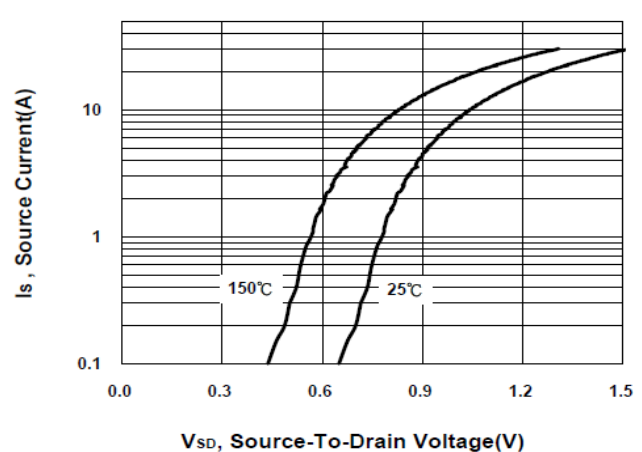
Capacitance Characteristic



Gate charge Characteristics



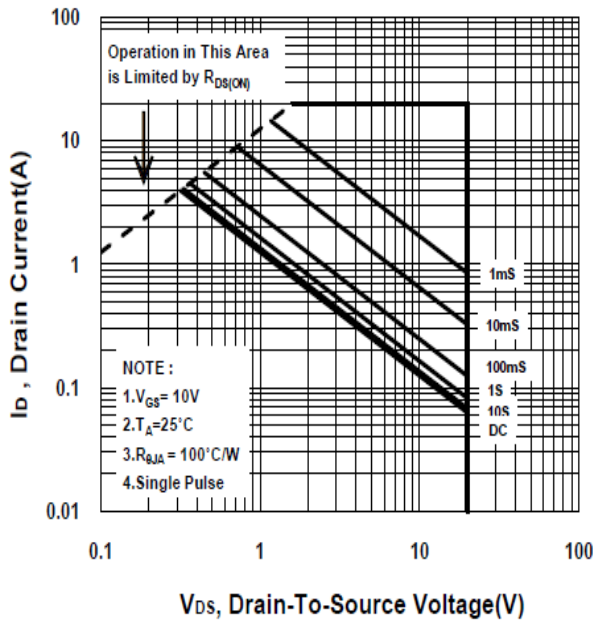
Source-Drain Diode Forward Voltage



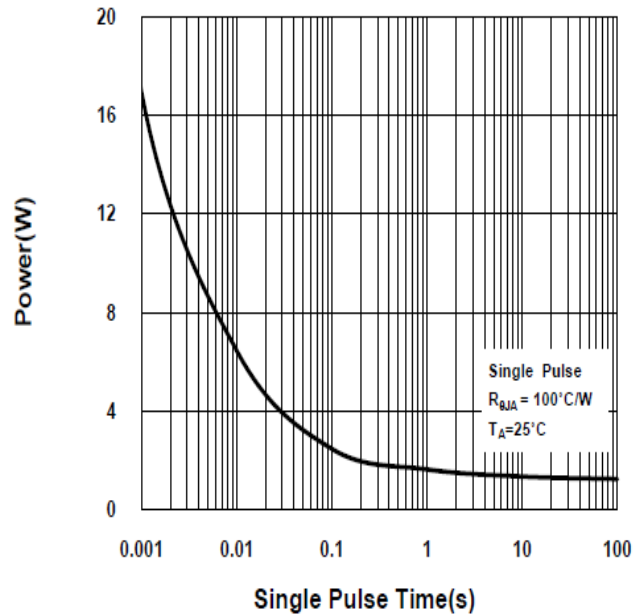
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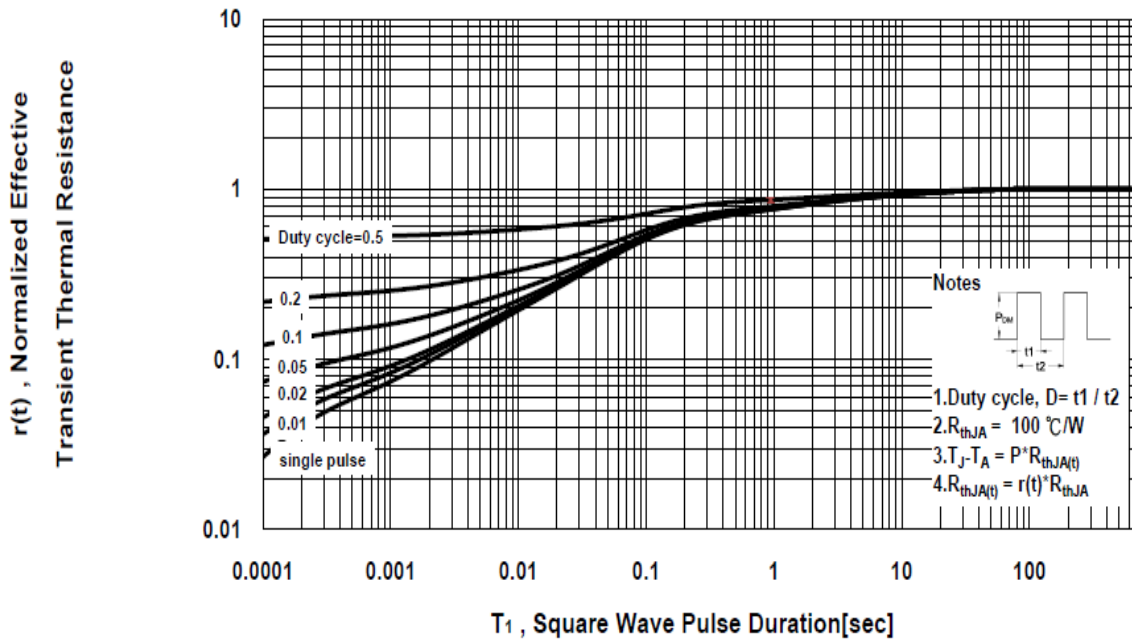
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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Package Dimension

SOT-23-3 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A		1.05		H	0.1		0.2
B	2.4		3	I	0.3		0.6
C	1.4		1.73				
D	2.7		3.1				
E	1		1.31				
F	0		0.15				
G	0.3		0.5				

