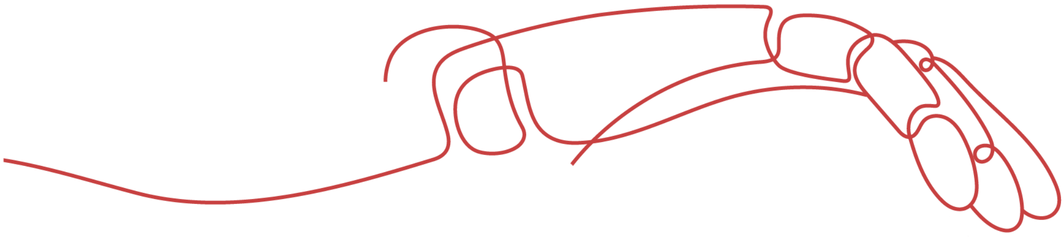
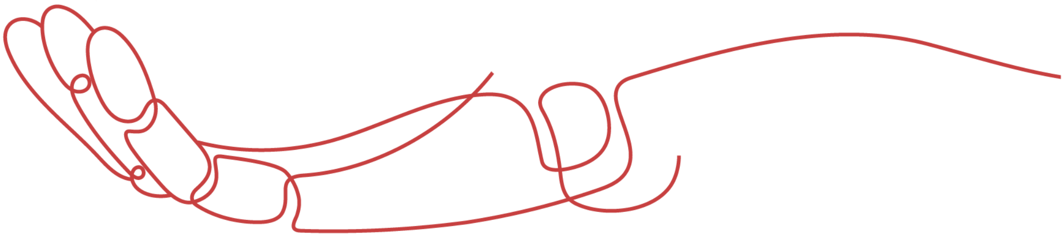
JG Techology



PRODUCT DATA SHEET



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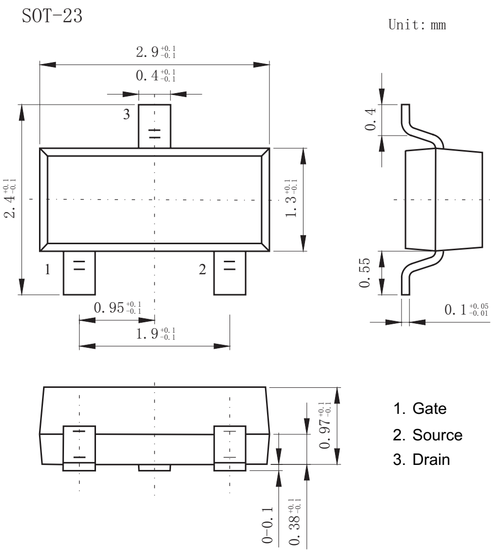
Datasheet **Resources** **Samples**



1. Gate
2. Source
3. Drain

■ Features

- ● V_{DS} (V) = 100V
- ● I_D = 0.17 A (V_{GS} = 10V)
- ● $R_{DS(ON)} < 6\Omega$ (V_{GS} = 10V)
- ● $R_{DS(ON)} < 10\Omega$ (V_{GS} = 4.5V)
- ● ESD Protected 2KV HBM

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	0.17	A
Pulsed Drain Current	I_{DM}	0.68	
Power Dissipation	P_D	0.36	W
Derate Above 25°C		2.8	mW/℃
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	350	°C/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			1	μA
		V_{DS}=100V, V_{GS}=0V, T_J=55℃			60	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±10	
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=1mA	0.8		2.8	V
Static Drain-Source On-Resistance	$R_{DS(On)}$	V_{GS}=10V, I_D=0.17A			6	Ω
		V_{GS}=10V, I_D=0.17A T_J=125℃			12	
		V_{GS}=4.5V, I_D=0.17A			10	
On State Drain Current	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=5V	0.68			A
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=0.17A	0.08			S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, f=1MHz		73		pF
Output Capacitance	C_{oss}			7		
Reverse Transfer Capacitance	C_{rss}			3.4		
Gate Resistance	R_g	V_{GS}=15mV, f=1MHz		2.2		Ω
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=0.22A		1.8	2.5	nC
Gate Source Charge	Q_{gs}			0.2		
Gate Drain Charge	Q_{gd}			0.3		
Turn-On DelayTime	$t_{d(on)}$	V_{DD} = 30 V, I_D = 0.28 A, V_{GS} = 10 V, R_{GEN} = 6 Ω		1.7	3.4	ns
Turn-On Rise Time	t_r			9	18	
Turn-Off DelayTime	$t_{d(off)}$			17	31	
Turn-Off Fall Time	t_f			2.4	5	
Body Diode Reverse Recovery Time	t_{rr}	I_F= 0.17A, d_I/d_t= 100A/μs		11		
Body Diode Reverse Recovery Charge	Q_{rr}			3		nC
Maximum Body-Diode Continuous Current	I_S				0.17	A
Diode Forward Voltage	V_{SD}	I_S=0.34A,V_{GS}=0V			1.3	V

Note.: Pulse Test: Pulse Width ≤ 300 us, Duty Cycle ≤ 2.0%

■ Typical Characterisitics

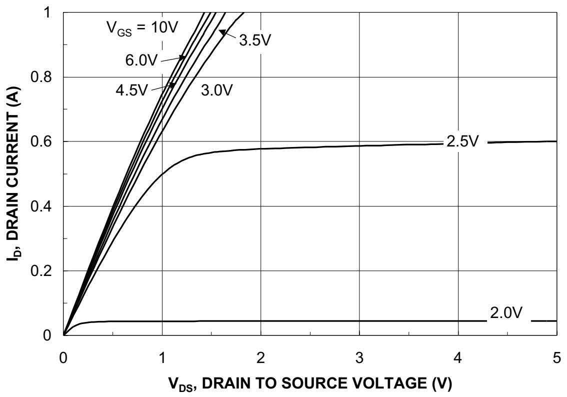


Figure 1. On-Region Characteristics.

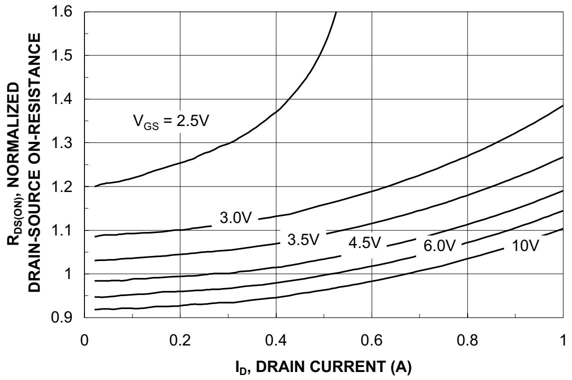


Figure 2. On-Resistance Variation with Drain Current and Gate Voltage.

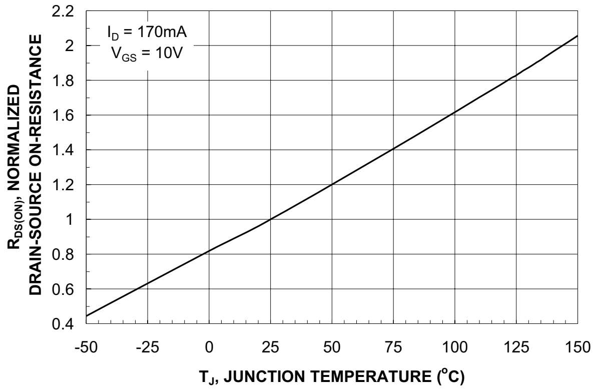


Figure 3. On-Resistance Variation with Temperature.

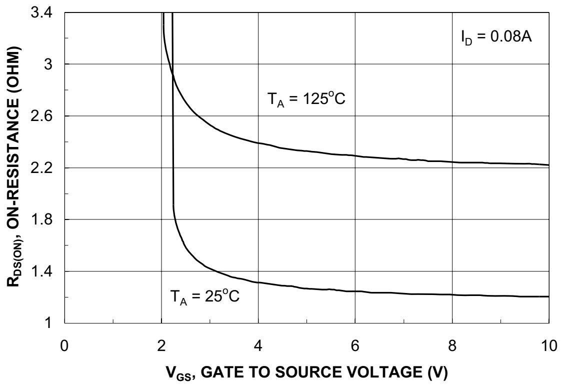


Figure 4. On-Resistance Variation with Gate-to-Source Voltage.

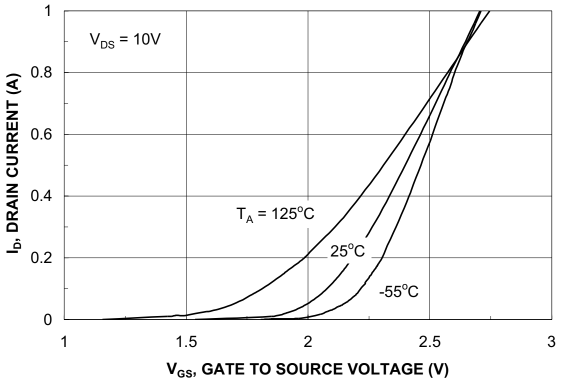


Figure 5. Transfer Characteristics.

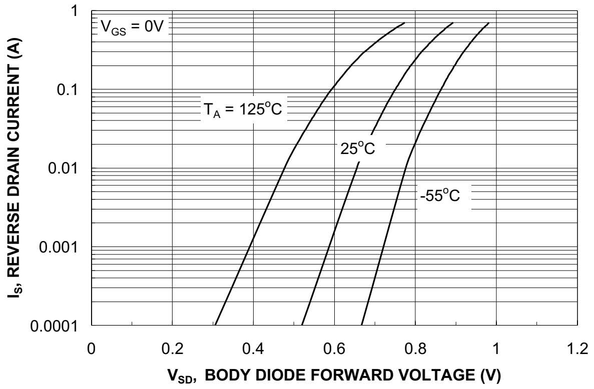


Figure 6. Body Diode Forward Voltage Variation with Source Current and Temperature.

■ Typical Characterisitics

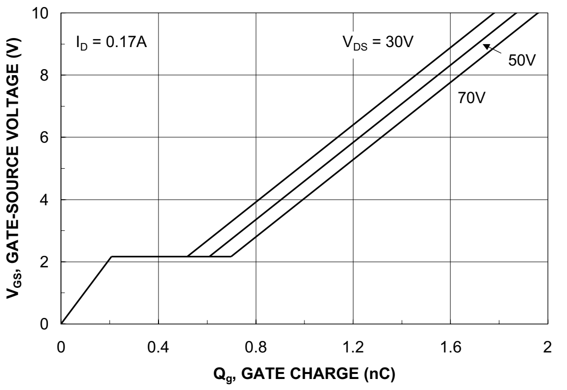


Figure 7. Gate Charge Characteristics.

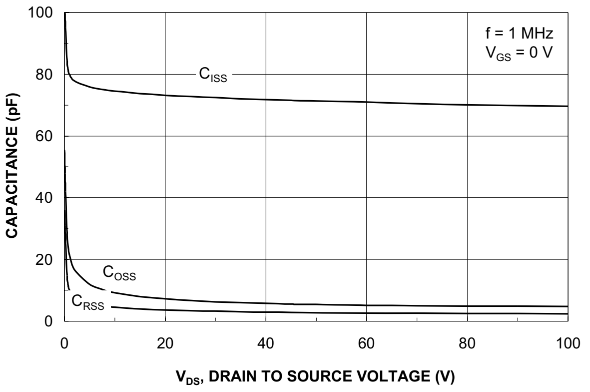


Figure 8. Capacitance Characteristics.

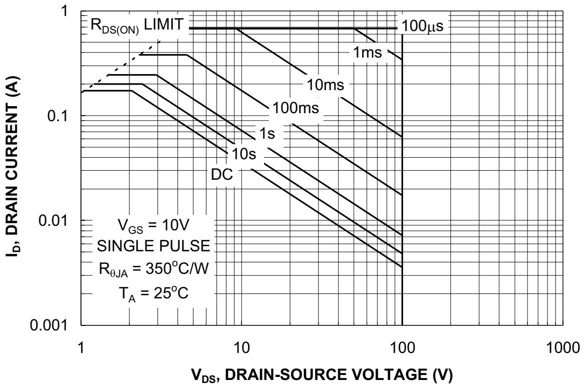


Figure 9. Maximum Safe Operating Area.

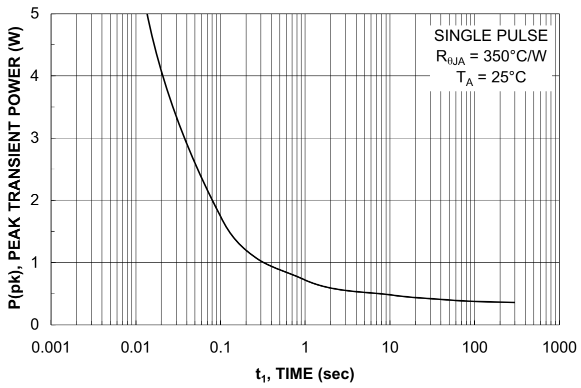


Figure 10. Single Pulse Maximum Power Dissipation.

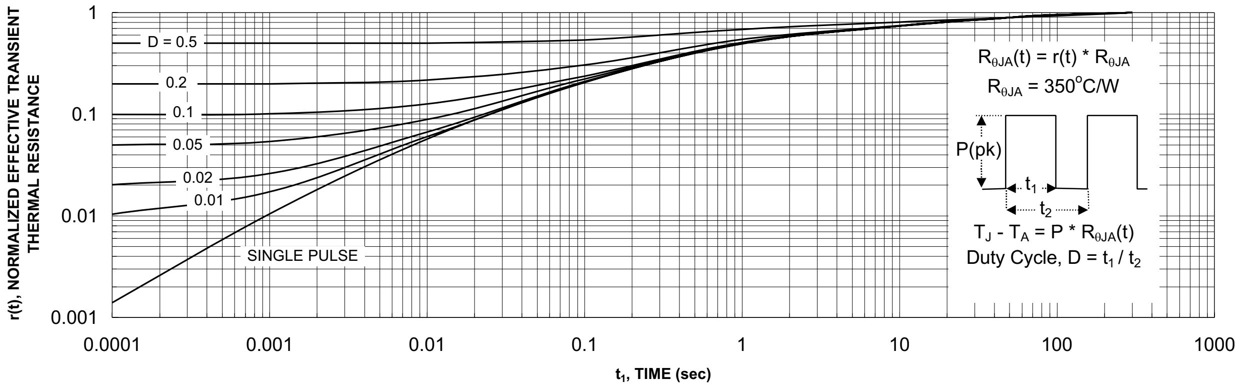


Figure 11. Transient Thermal Response Curve.

Thermal characterization performed using the conditions described in Note 1a.
Transient thermal response will change depending on the circuit board design.

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