

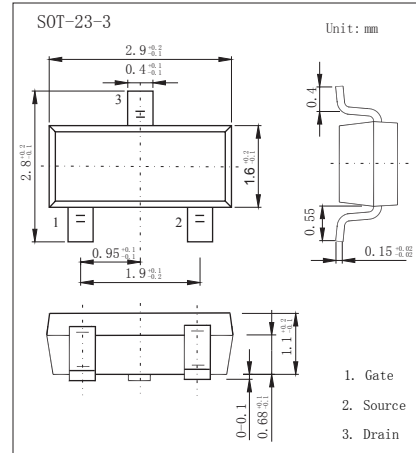
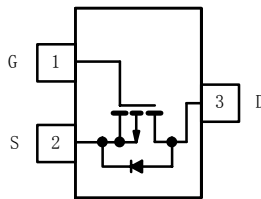


SOT-23-3 Plastic-Encapsulate MOSFETS

SI2325 P-Channel Enhancement MOSFET

■ Features

- $V_{DS} (V) = -150V$
- $I_D = -0.69A (V_{GS} = -10V)$
- $R_{DS(ON)} < 1.2 \Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 1.3 \Omega (V_{GS} = -6V)$



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	5 sec	Steady State	Unit	
Drain-Source Voltage	V_{DS}	-150		V	
Gate-Source Voltage	V_{GS}	± 20			
Continuous Drain Current ($T_J = 150^\circ C$) *1	I_D	$T_a = 25^\circ C$	-0.69	-0.53	A
		$T_a = 70^\circ C$	-0.55	-0.43	
Pulsed Drain Current	I_{DM}	-1.6			
Single-Pluse Avalanche Current	I_{AS}	4.5			
Single-Pulse Avalanche Energy	E_{AS}	1.01		mJ	
Power Dissipation	P_D	$T_a = 25^\circ C$	1.25	0.75	W
		$T_a = 70^\circ C$	0.8	0.48	
Thermal Resistance.Junction- to-Ambient $t \leq 5$ sec Steady State	R_{thJA}	100		$^\circ C/W$	
		166			
Thermal Resistance.Junction- to-Foot	R_{thJF}	50			
Junction Temperature	T_J	150		$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150			

*1 Surface Mounted on 1" x 1" FR4 Board.

■ Electrical Characteristics Ta = 25°C

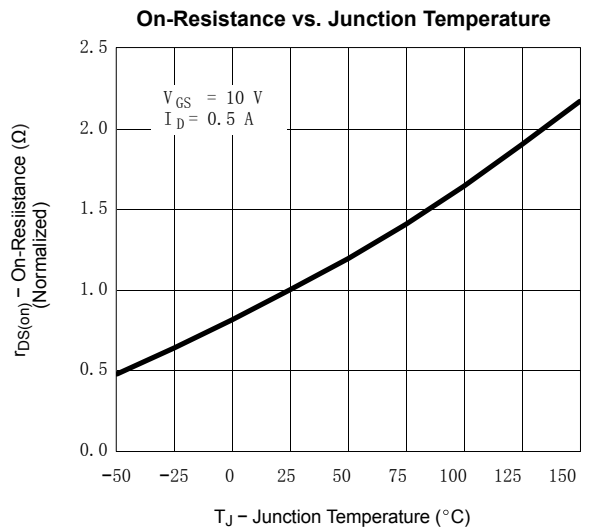
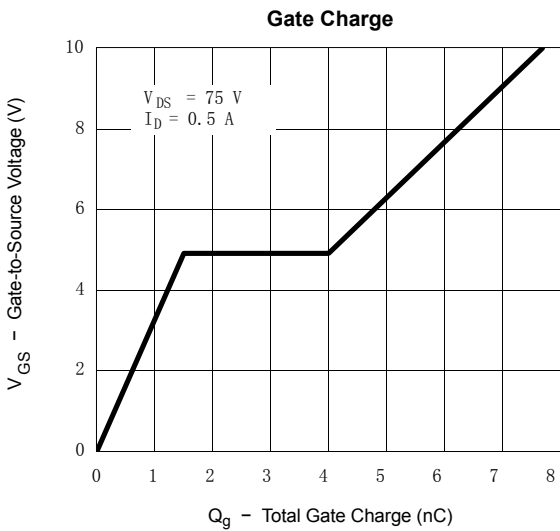
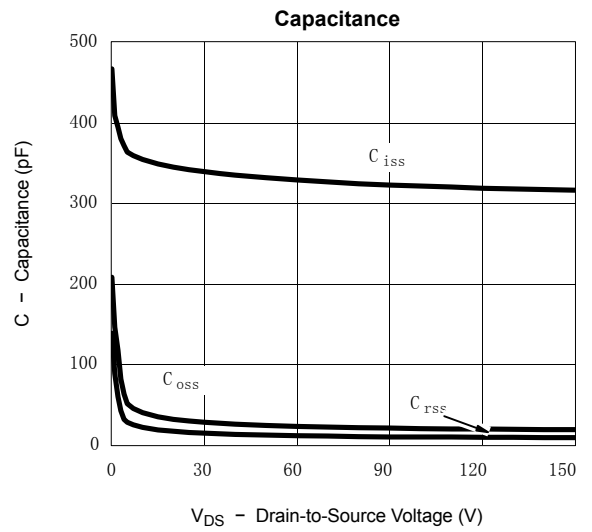
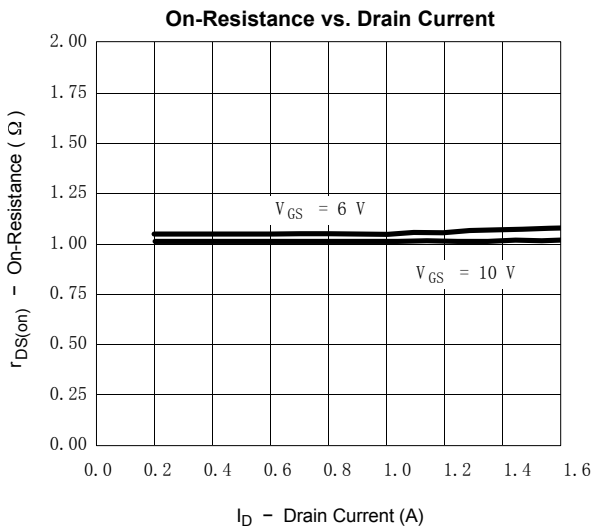
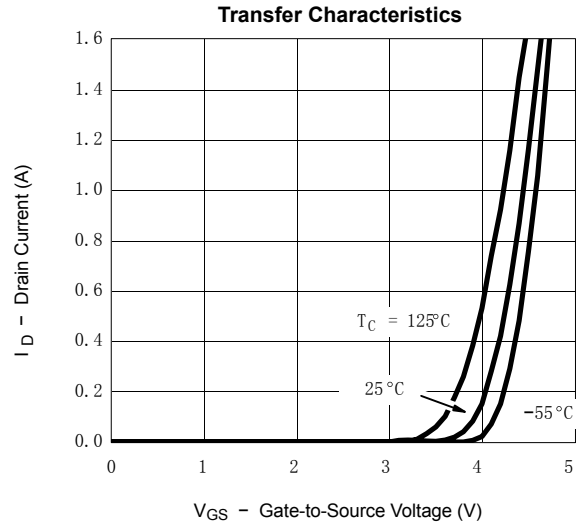
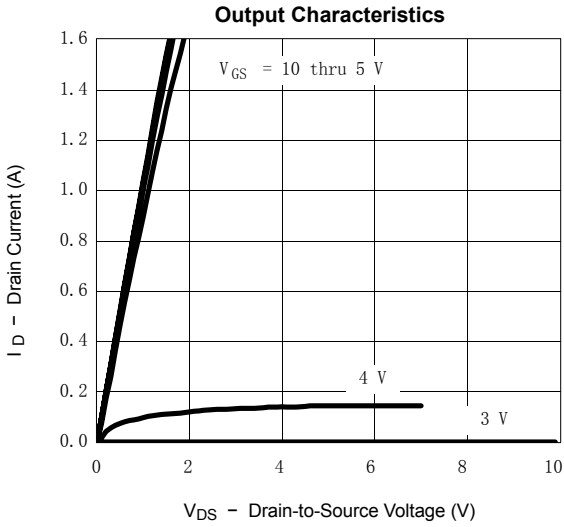
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-150			V
Zero Gate Voltage Drain Current	I _{BSS}	V _{DS} =-150V, V _{GS} =0V			-1	μA
		V _{DS} =-150V, V _{GS} =0V, T _J =55°C			-10	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-2.5		-4.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-0.5A		1.0	1.2	Ω
		V _{GS} =-6V, I _D =-0.5A		1.05	1.3	
On state drain current	I _{D(ON)}	V _{GS} =-10V, V _{DS} =-15V	-1.6			A
Forward Transconductance	g _{FS}	V _{DS} =-15V, I _D =-0.5A		2.2		S
Gate Resistance	R _g	f=1.0MHz		9		Ω
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-25V, f=1MHz *1		340	510	pF
Output Capacitance	C _{oss}			30		
Reverse Transfer Capacitance	C _{rss}			16		
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-75V, I _D =-0.5A *1		7.7	12	nC
Gate Source Charge	Q _{gs}			1.5		
Gate Drain Charge	Q _{gd}			2.5		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-75V, R _L =75 Ω, R _{GEN} =6 Ω I _D =-1.0A *1		7	11	ns
Turn-On Rise Time	t _r			11	17	
Turn-Off DelayTime	t _{d(off)}			16	25	
Turn-Off Fall Time	t _f			11	17	
Body Diode Reverse Recovery Charge	Q _{rr}		IF = 0.5 A, di/dt = 100 A/ s		90	
Maximum Body-Diode Continuous Current	I _s	5 sec			-1.0	A
		Steady State			-0.6	
Diode Forward Voltage	V _{SD}	I _s =-1.0A, V _{GS} =0V		-0.7	-1.2	V

*1Pulse test: PW ≤ 300us duty cycle ≤ 2%.

■ Marking

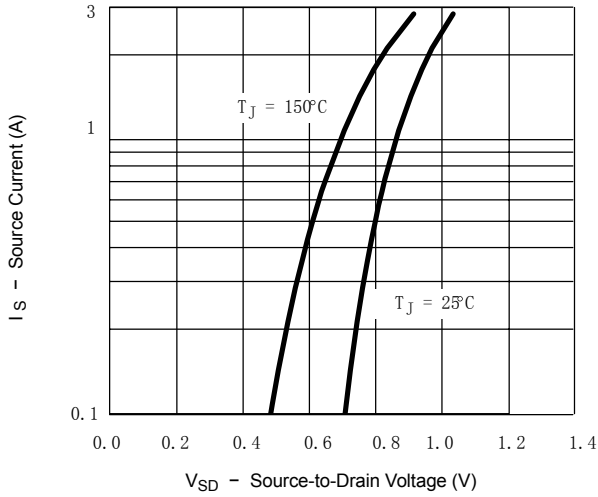
Marking	D5*
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■ Typical Characteristics

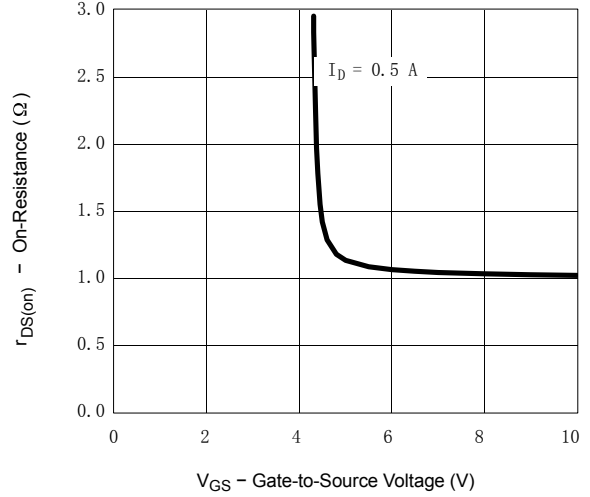


■ Typical Characteristics

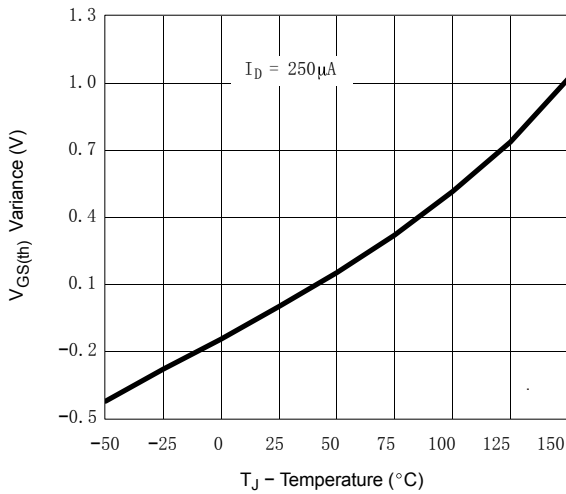
Source-Drain Diode Forward Voltage



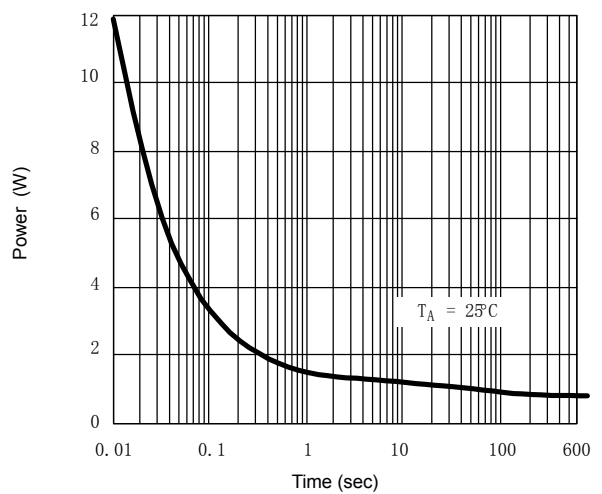
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



Single Pulse Power



Safe Operating Area

