



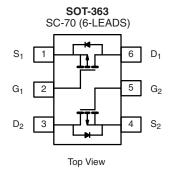
Dual P-Channel 1.8 V (G-S) MOSFET

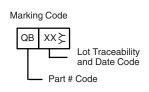
PRODUCT SUMMARY				
V _{DS} (V)	$R_{DS(on)}(\Omega)$	I _D (A)		
	0.600 at V _{GS} = - 4.5 V	± 0.60		
- 8	0.850 at V _{GS} = - 2.5 V	± 0.50		
	1.200 at V _{GS} = - 1.8 V	± 0.42		

FEATURES

- Halogen-free According to IEC 61249-2-21 Definition
- TrenchFET[®] Power MOSFETs
- 1.8 V Rated
- Compliant to RoHS Directive 2002/95/EC







Ordering Information: Si1905DL-T1-E3 (Lead (Pb)-free)

Si1905DL-T1-GE3 (Lead (Pb)-free and Halogen-free)

ABSOLUTE MAXIMUM RATINGS $T_A =$	25 °C, unless oth	erwise noted				
Parameter	Symbol	5 s	Steady State	Unit		
Drain-Source Voltage		V _{DS}	- 8		V	
Gate-Source Voltage		V _{GS}	± 8			
Continuous Dunis Courset /T 450 90\8	T _A = 25 °C	- I _D	± 0.60	± 0.57	Α	
Continuous Drain Current (T _J = 150 °C) ^a	T _A = 85 °C		± 0.43	± 0.41		
Pulsed Drain Current		I _{DM}	± 1.0		А	
Continuous Diode Current (Diode Conduction) ^a		I _S	- 0.25	- 0.23		
Mariana Barra Birainatian	T _A = 25 °C	P _D	0.30	0.27	W	
Maximum Power Dissipation ^a	T _A = 85 °C		0.16	0.14		
Operating Junction and Storage Temperature Range		T _J , T _{stg}	- 55 to 150		°C	

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	t ≤ 5 s	R _{thJA}	360	415	
Maximum Junction-to-Ambient	Steady State		400	460	°C/W
Maximum Junction-to-Foot (Drain)	Steady State	R _{thJF}	300	350	

Notes

a. Surface mounted on 1" x 1" FR4 board.

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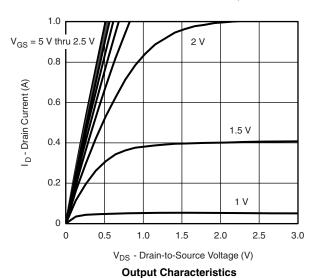
SPECIFICATIONS $T_J = 25 ^{\circ}\text{C}$,	unless othe	erwise noted					
Parameter	Symbol	Test Conditions	Min.	Тур.	Max.	Unit	
Static						,	
Gate Threshold Voltage	V _{GS(th)}	$V_{DS} = V_{GS, I_D} = -250 \mu A$	- 0.45			V	
Gate-Body Leakage	I _{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 8 \text{ V}$			± 100	nA	
Zana Oata Valla va Buria Oama i	I _{DSS}	V _{DS} = - 6.4 V, V _{GS} = 0 V			- 1	μА	
Zero Gate Voltage Drain Current		V _{DS} = - 6.4 V, V _{GS} = 0 V, T _J = 85 °C			- 5		
On-State Drain Current ^a	I _{D(on)}	V _{DS} = - 5 V, V _{GS} = - 4.5 V	- 1.0			Α	
	R _{DS(on)}	V _{GS} = - 4.5 V, I _D = - 0.57 A		0.51	0.600		
Drain-Source On-State Resistance ^a		V _{GS} = - 2.5 V, I _D = - 0.48 A		0.720	0.850	Ω	
		V _{GS} = - 1.8 V, I _D = - 0.20 A		1.0	1.200		
Forward Transconductance ^a	9 _{fs}	V _{DS} = - 10 V, I _D = - 0.57 A		1.2		S	
Diode Forward Voltage ^a	V _{SD}	I _S = - 0.23 A, V _{GS} = 0 V		- 0.8	- 1.2	V	
Dynamic ^b							
Total Gate Charge	Qg			1.5	2.3	nC	
Gate-Source Charge	Q_{gs}	$V_{DS} = -4 \text{ V}, V_{GS} = -4.5 \text{ V}, I_{D} = -0.57 \text{ A}$		0.17			
Gate-Drain Charge	Q _{gd}]		0.16			
Turn-On Delay Time	t _{d(on)}			6	12		
Rise Time	t _r	t_r $V_{DD} = -4 \text{ V, R}_L = 8 \Omega$		25	50]	
Turn-Off DelayTime	t _{d(off)}	$I_D \cong -0.5 \text{ A}, V_{GEN} = -4.5 \text{ V}, R_g = 6 \Omega$		10	20	ns	
Fall Time	t _f]		10	20		
Source-Drain Reverse Recovery Time	t _{rr}	I _F = - 0.23 A, dl/dt = 100 A/μs		20	40		

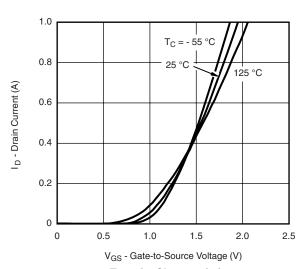
Notes

- a. Pulse test; pulse width \leq 300 μ s, duty cycle \leq 2 %.
- b. Guaranteed by design, not subject to production testing.

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted





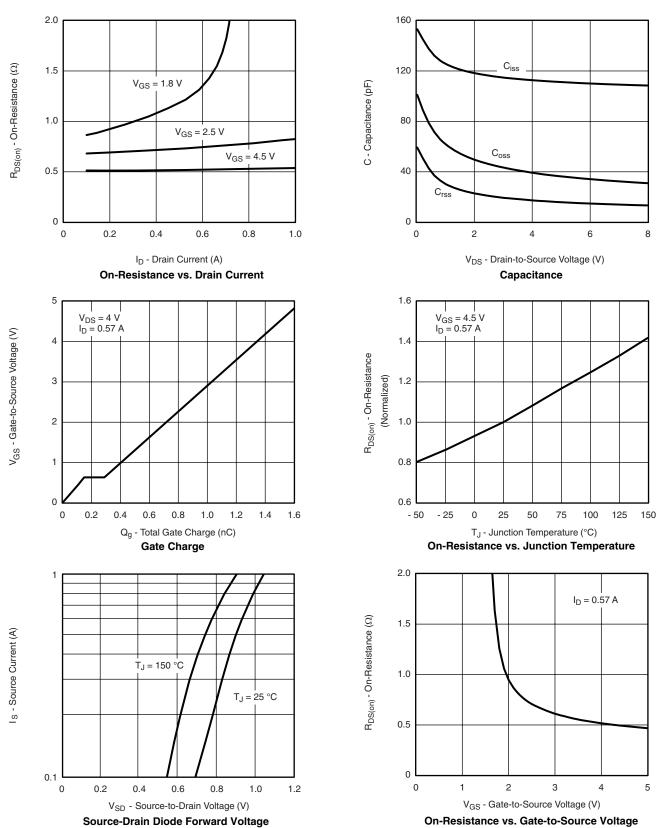
Transfer Characteristics







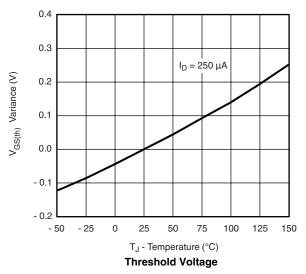
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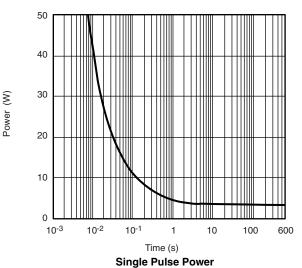


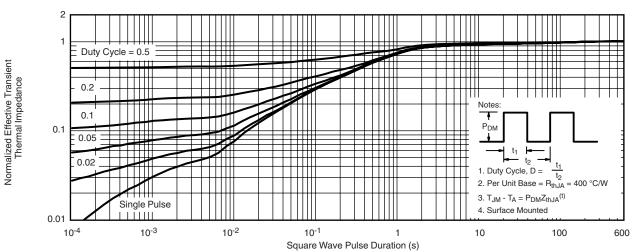
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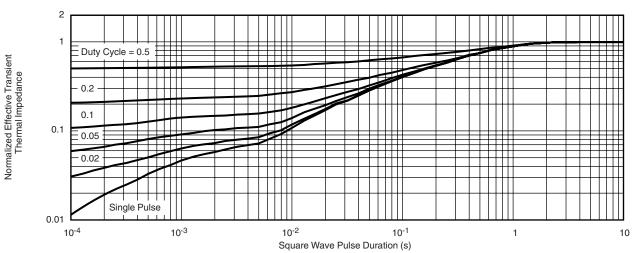
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted







Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot

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