

SE1305
8V P-Channel Enhancement-Mode MOSFET

General Description

The MOSFETs from SINO-IC provide the best combination of fast switching, low on-resistance and cost-effectiveness.

General Description

Thigh Density Cell Design For Ultra Low On-Resistance Fully Characterized Avalanche Voltage and Current Improved Shoot-Through FOM

- Simple Drive Requirement
- Small Package Outline
- Surface Mount Device
- Pb-Free package is available

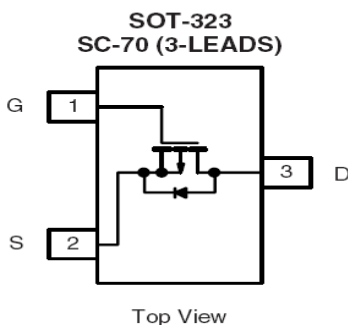
Features

For a single mosfet

- $V_{DS} = -8\text{ V}$
- $R_{DS(ON)} = 0.28\Omega @ V_{GS} = -4.50\text{V} @ I_{DS} = -0.92\text{A}$
- $R_{DS(ON)} = 0.38\Omega @ V_{GS} = -2.50\text{V} @ I_{DS} = -0.79\text{A}$
- $R_{DS(ON)} = 0.53\Omega @ V_{GS} = -1.8\text{V} @ I_{DS} = -0.67\text{A}$

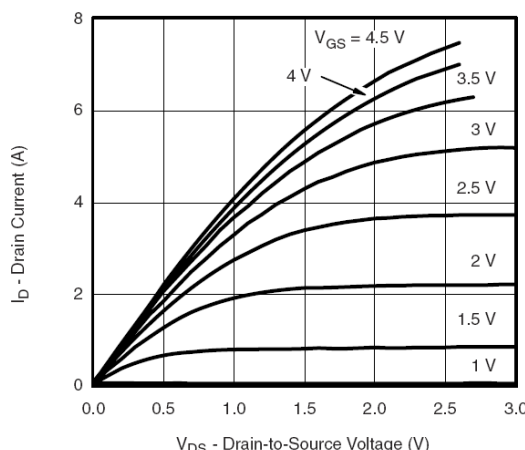
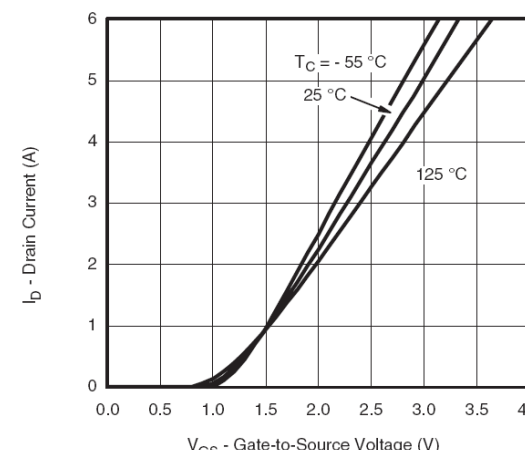
Pin configurations

See Diagram below

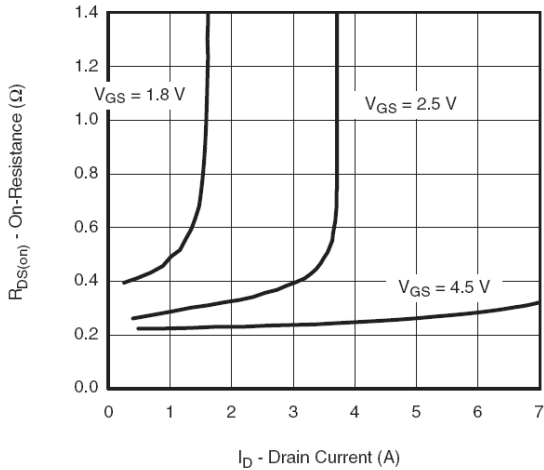


Absolute Maximum Ratings

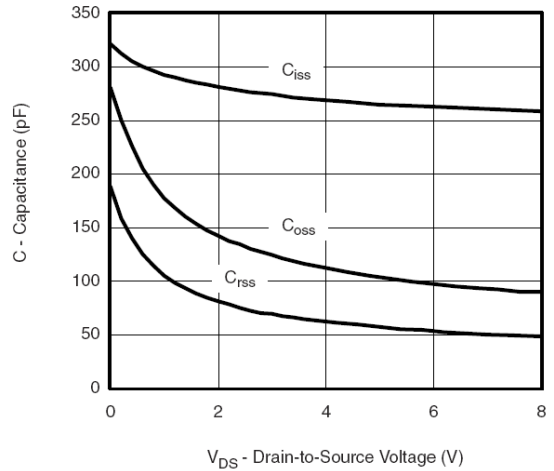
Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	-8	V
Gate-Source Voltage		V_{GS}	± 8	V
Drain Current (Note 1)	Continuous	I_D	-0.86	A
	Pulsed		-0.92	A
Total Power Dissipation	@ $T_A = 25^\circ\text{C}$	P_D	0.29	W
	@ $T_A = 75^\circ\text{C}$		0.19	W
Operating Junction Temperature Range		T_J	-55 to 150	$^\circ\text{C}$

Electrical Characteristics (T _J =25°C unless otherwise noted)						
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS (Note 2)						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D =-250 μ A, V _{GS} =0 V	-8			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-8 V, V _{GS} =0 V			-1	μ A
I _{GSS}	Gate-Body leakage current	V _{DS} =0 V, V _{GS} =±8 V			±0.1	μ A
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} I _D =-250 μ A	-0.45			V
R _{DS(on)}	Static Drain-Source On-Resistance ²	V _{GS} =-4.50V, I _D =-1 A	-	0.23	0.28	Ω
		V _{GS} =-2.5V, I _D =-0.5A	-	0.32	0.38	
		V _{GS} =-1.8V, I _D =-0.3A	-	0.44	0.53	
g _{FS}	Forward Transconductance	V _{DS} =-5V, I _D =-1A		3.5		S
SWITCHING PARAMETERS						
Q _g	Total Gate Charge ²	V _{GS} =-4.5V, V _{DS} =-4V, I _D =-1A		2.6	4	nC
Q _{gs}	Gate Source Charge			0.6		nC
Q _{gd}	Gate Drain Charge			0.5		nC
t _{d(on)}	Turn-On DelayTime ²	V _{GS} =-4.5V, V _{DD} =-4V, R _L =4 Ω, R _G =6 Ω, I _D =-1A		8	15	ns
t _{d(off)}	Turn-Off DelayTime			17	25	
t _{d(r)}	Turn-On Rise Time			55	80	
t _{d(f)}	Turn-Off Fall Time			12	20	
t _{rr}	Source-Drain Reverse Recovery Time	I _F = - 1 A, d _i /d _t = 100 A/μs		27	45	ns
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted						
 <p>Output Characteristics</p>			 <p>Transfer Characteristics</p>			

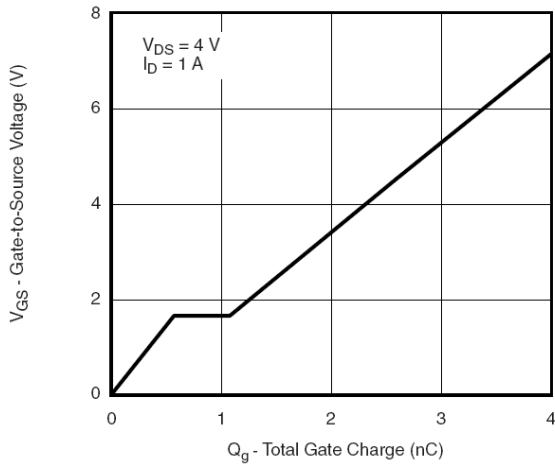
TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



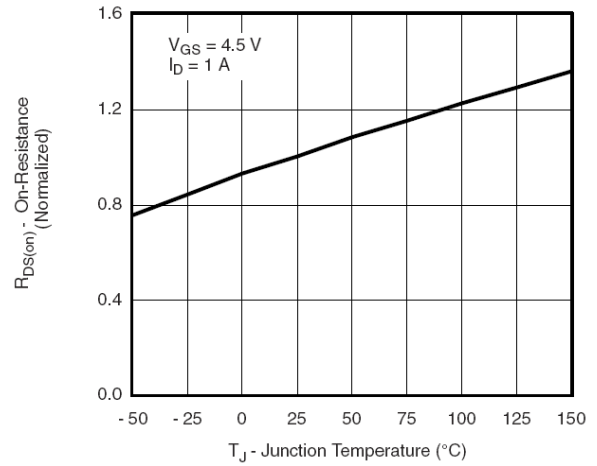
On-Resistance vs. Drain Current



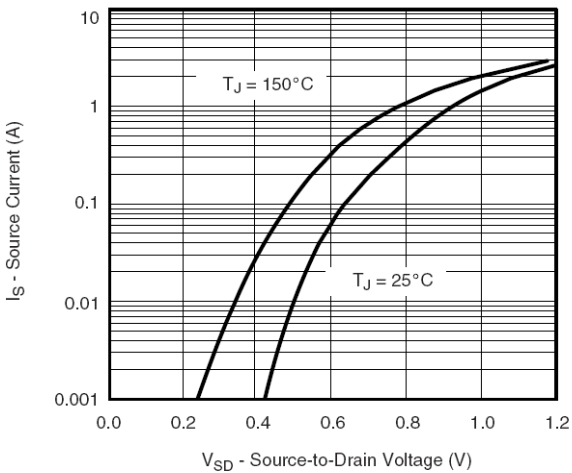
Capacitance



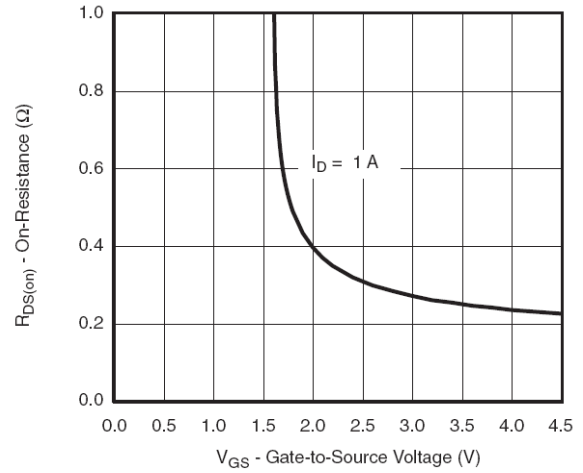
Gate Charge



On-Resistance vs. Junction Temperature

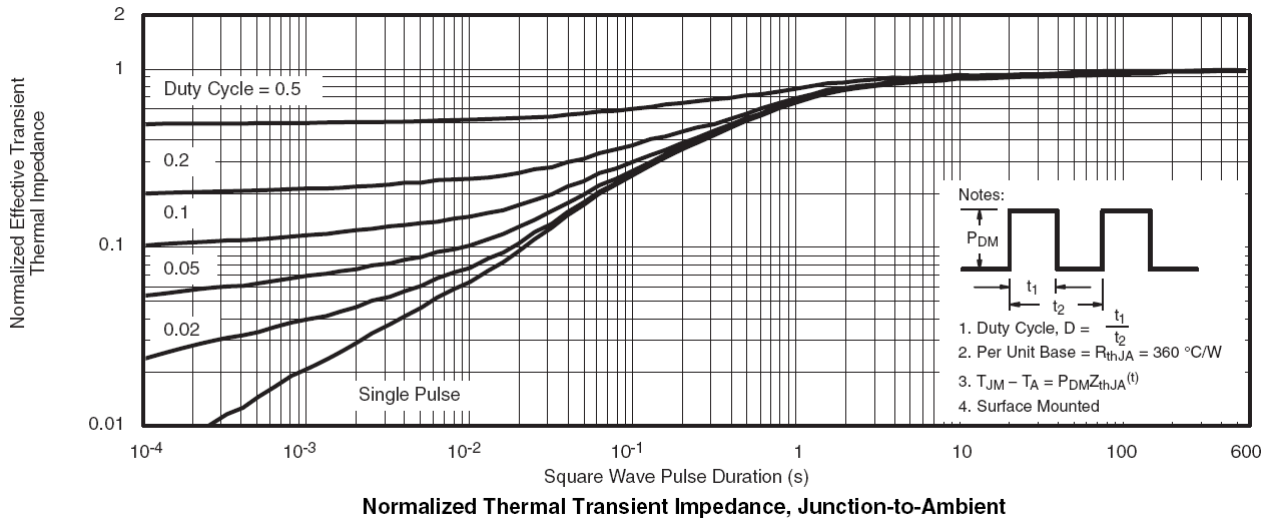
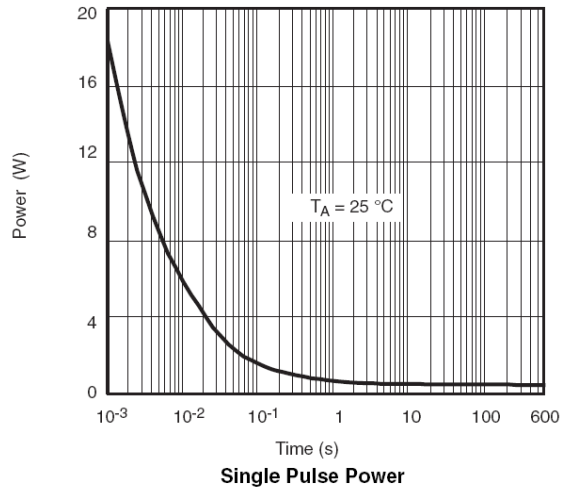
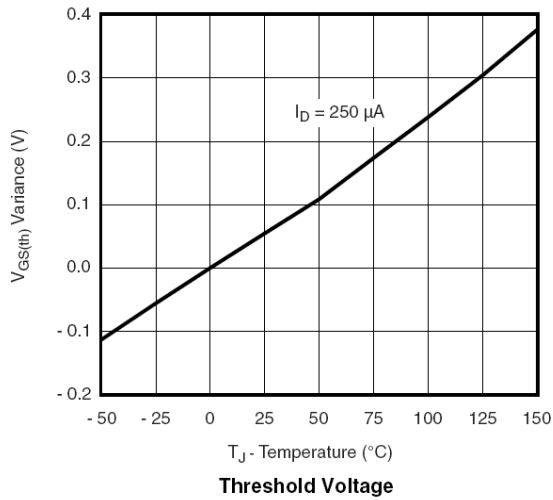


Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted



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