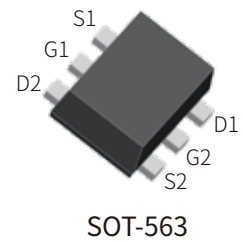


FEATURES

- | High-Side Switching
- | Low On-Resistance
- | Low Threshold
- | Fast Switching Speed



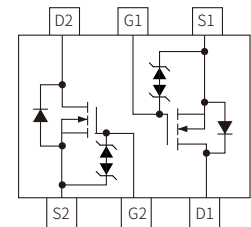
APPLICATION

- | Drivers: Relays, Solenoids Lamps, Hammers, Displays, Memories
- | Battery Operated Systems
- | Power Supply Converter Circuits
- | Load/Power Switching Cell Phones, Pagers



APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



Schematic Symbol

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Typical Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	0.75	A
Drain Current -Pulsed(note1)	I_{DM}	3	A
Power Dissipation (note 2)	P_D	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

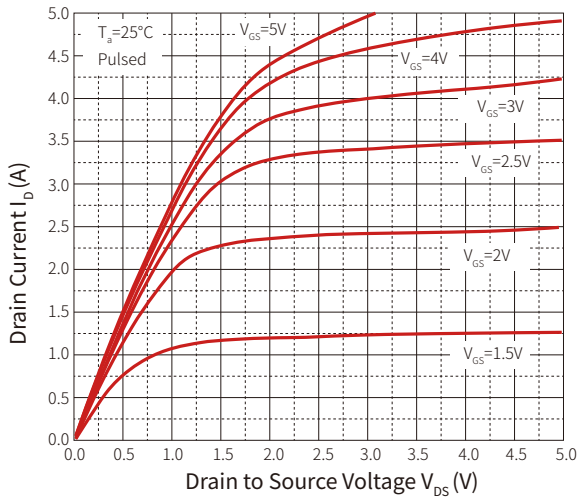
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
On/Off States						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±10V, V _{DS} =0V			±10	μA
Gate-Threshold Voltage(note 3)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4	0.65	0.9	V
Drain-Source On-State Resistance(note 3)	R _{DS(on)}	V _{GS} =4.5V, I _D =0.5A		270	340	mΩ
		V _{DS} =2.5V, I _D =0.3A		370	465	mΩ
		V _{DS} =1.8V, I _D =0.1A		700	1100	mΩ
Forward Transconductance	g _{FS}	V _{DS} =10V, I _D =800mA	1			S
Dynamic Characteristics(note 4)						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =16V, f=1.0MHz		25		pF
Output capacitance	C _{oss}			8.5		pF
Reverse transfer capacitance	C _{rss}			3.8		pF
Turn-on Delay Time	t _{d(on)}	V _{GS} =4.5V, V _{DD} =10V R _G =10Ω, I _D =500mA		6.7		ns
Turn-on Rise Time	t _r			4.8		ns
Turn-Off Delay Time	t _{d(off)}			17.3		ns
Turn-Off Fall Time	t _f			7.4		ns
Drain-Source Diode Characteristics						
Drain-Source Diode Forward Voltage (note 3)	V _{SD}	I _S =0.15A, V _{GS} =0V			1.2	V

Notes:

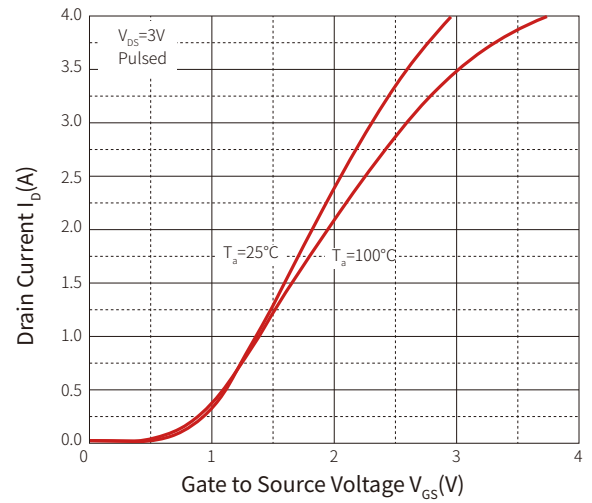
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25°C.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 0.5%.
4. These parameters have no way to verify

CHARACTERISTIC CURVES

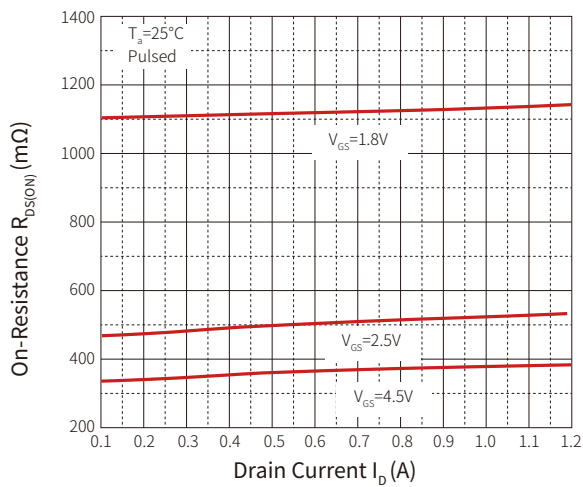
Output Characteristics



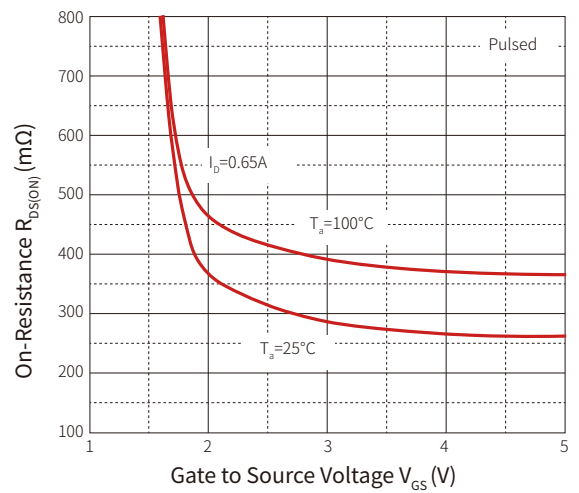
Transfer Characteristics

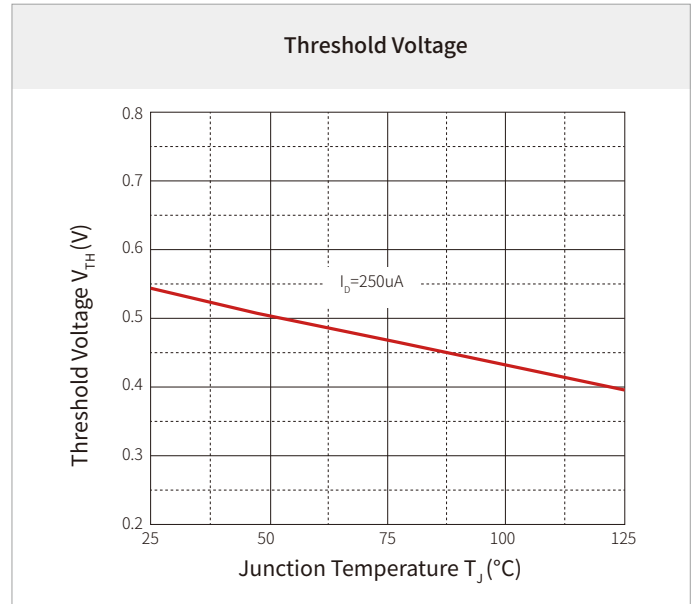
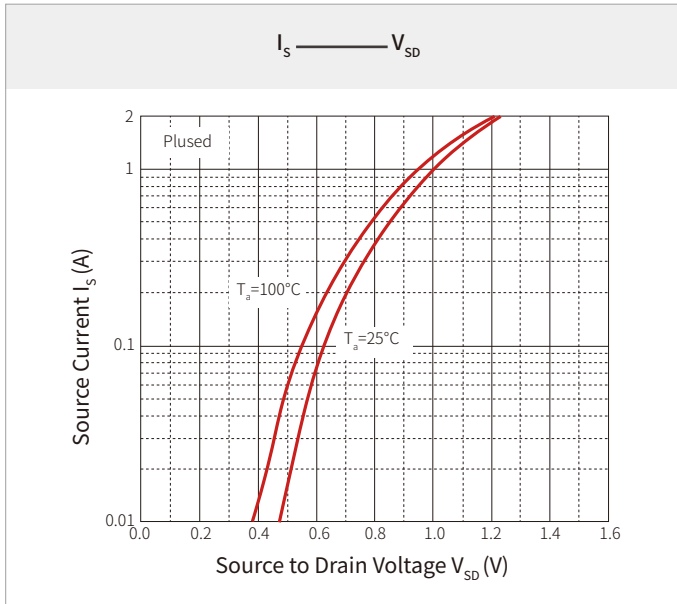


$R_{DS(ON)}$ — I_D



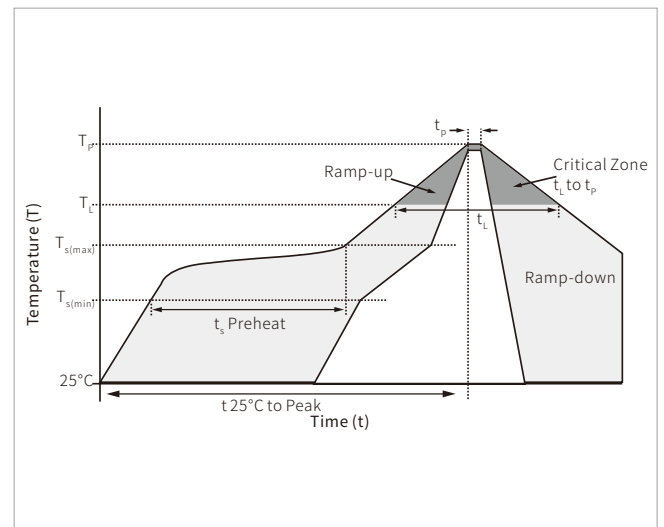
$R_{DS(ON)}$ — V_{GS}



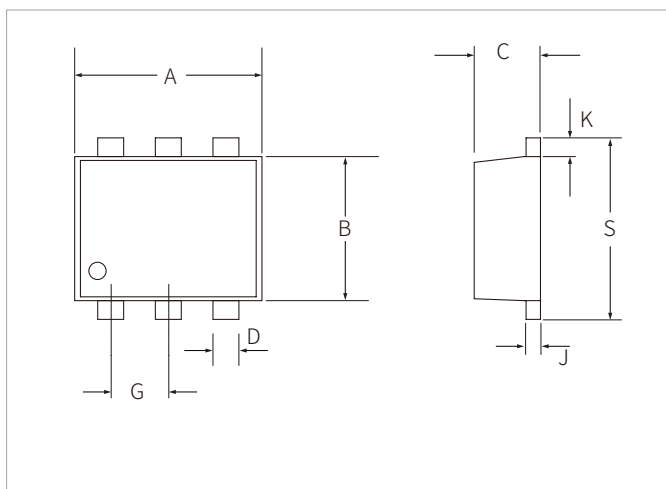


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\min)}$)	150 $^\circ\text{C}$
	Temperature Max ($T_{s(\max)}$)	200 $^\circ\text{C}$
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3 $^\circ\text{C}/\text{second}$ max
$T_{s(\max)}$ to T_L - Ramp-up Rate		3 $^\circ\text{C}/\text{second}$ max
Reflow	Temperature (T_L) (Liquidus)	217 $^\circ\text{C}$
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6 $^\circ\text{C}/\text{second}$ max
Time 25 $^\circ\text{C}$ to peak Temperature (T_p)		8 minutes max.
Do not exceed		260 $^\circ\text{C}$

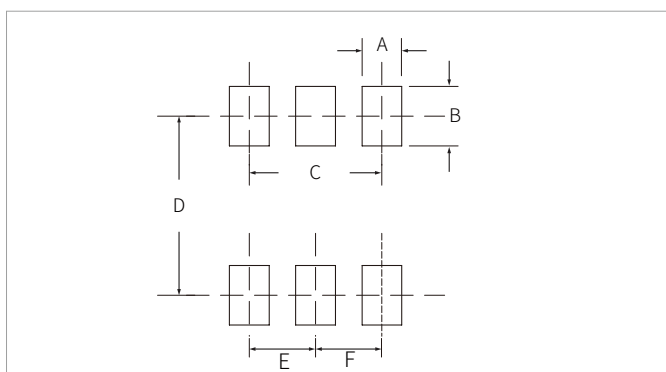


SOT-563 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.45	0.65	0.018	0.026
D	0.17	0.27	0.007	0.011
G	0.50TYP		0.020TYP	
J	0.08	0.18	0.003	0.007
K	0.10	0.30	0.004	0.012
S	1.50	1.70	0.059	0.067

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.30	0.012
B	0.45	0.018
C	1.00	0.040
D	1.35	0.053
E	0.50	0.020
F	0.50	0.020

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM1024DS	SOT-563	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.