

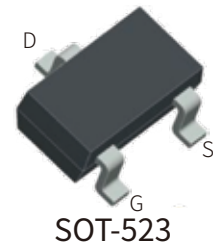
FEATURES

- | High-Side Switching

- | Low On-Resistance

- | Low Threshold

- | Fast Switching Speed



APPLICATION

- | Drivers: Relays, Solenoids Lamps, Hammers, Displays, Memories

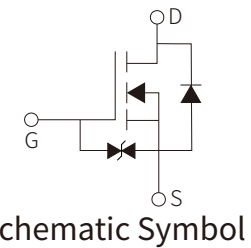
- | Battery Operated Systems

- | Power Supply Converter Circuits



APPROVALS

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



ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DSS}	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	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Thermal Resistance from Junction to Ambient	R _{θJA}	625	°C/W

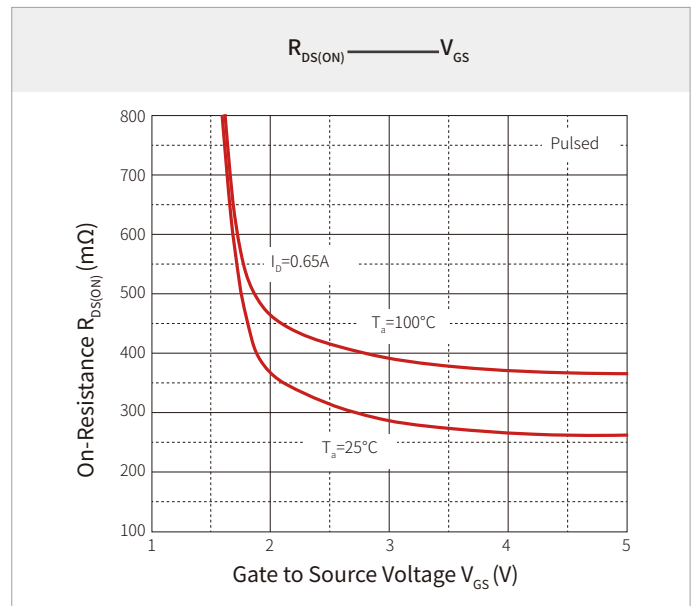
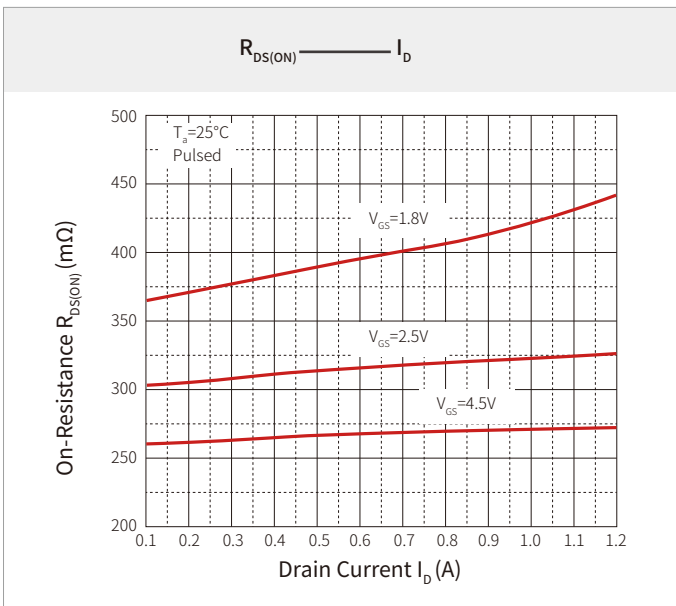
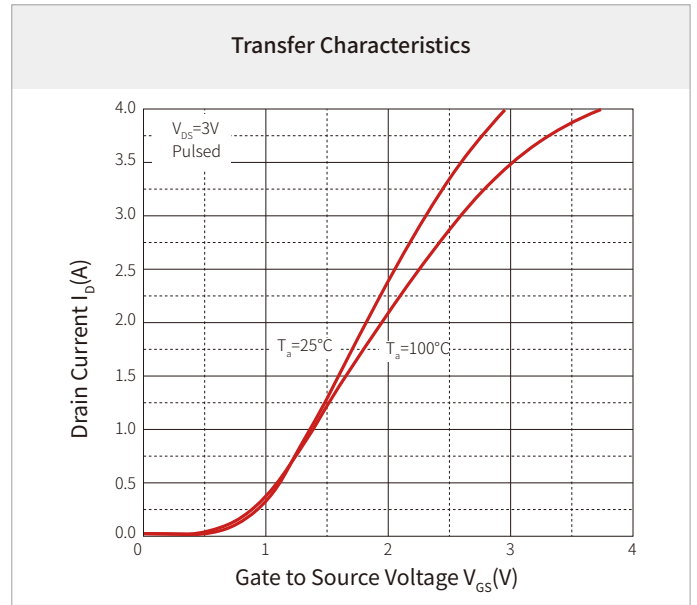
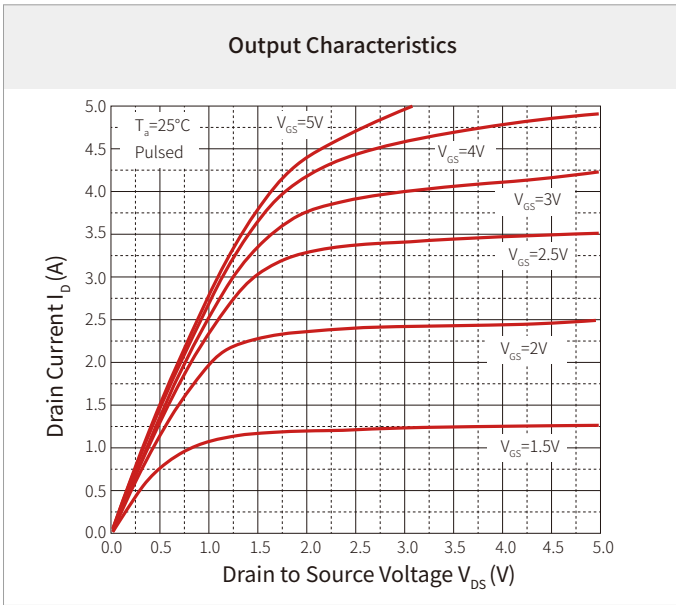
ELECTRICAL CHARACTERISTICS (T_A=25°C)

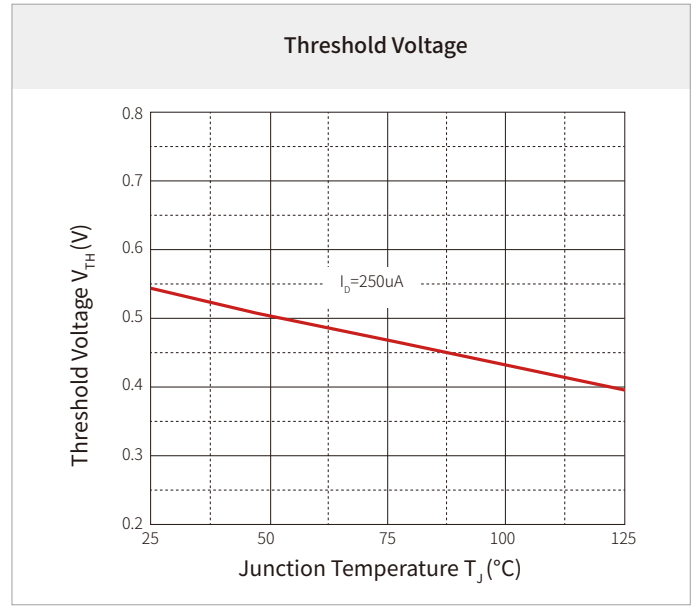
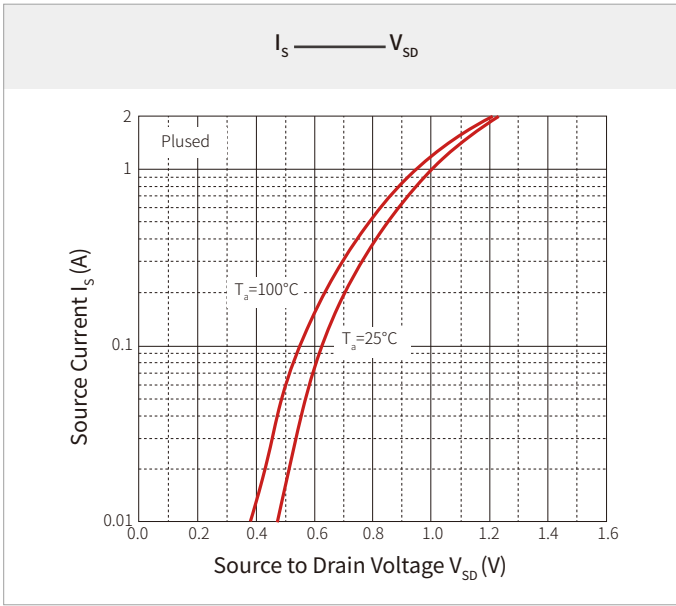
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
On/Off States						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±10V, V _{DS} =0V			±20	μA
Gate-Threshold Voltage(note 3)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.35		1.1	V
Drain-Source On-State Resistance(note 3)	R _{DS(on)}	V _{GS} =4.5V, I _D =650mA			380	mΩ
		V _{DS} =2.5V, I _D =550mA			450	mΩ
		V _{DS} =1.8V, I _D =450mA			800	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			120	pF
Output capacitance	C _{oss}				20	pF
Reverse transfer capacitance	C _{rss}				15	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

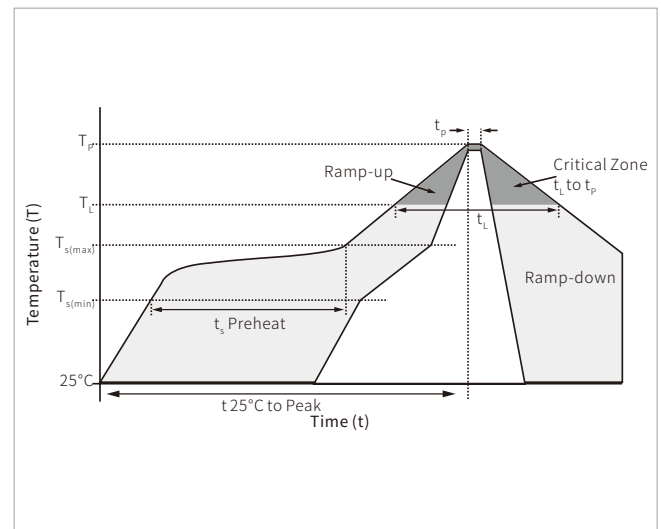
CHARACTERISTIC CURVES



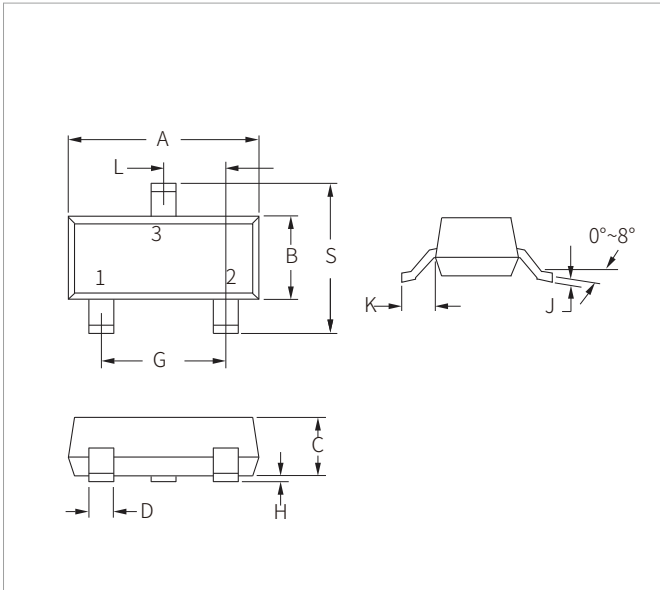


SOLDERING PARAMETERS

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

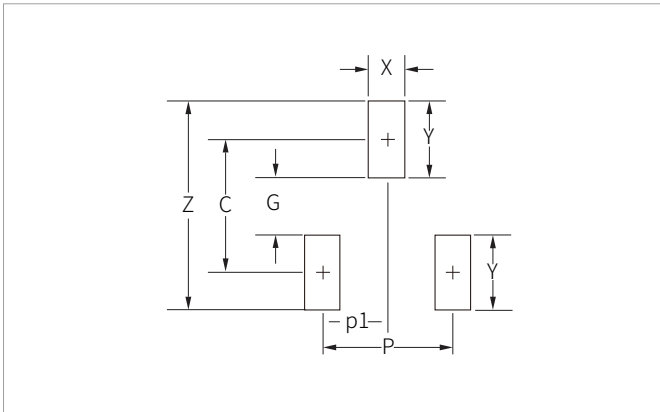


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.70	0.90	0.028	0.035
C	0.60	0.90	0.023	0.035
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM3134	SOT-523	3000PCS	7"

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