

FEATURES

| Lead free product is acquired

| Surface mount package

MECHANICAL DATA

| SOT-323 Small Outline Plastic Package

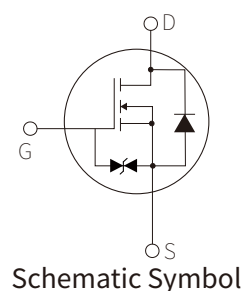
| Epoxy UL: 94V-0

| Mounting Position: Any

APPROVALS

RoHS Compliance with 2011/65/EU

HF Compliance with IEC61249-2-21:2003



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	0.75	A
Pulsed Drain Current	I_{DM}	3	A
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	-50 ~ +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-50 ~ +150	$^{\circ}\text{C}$
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

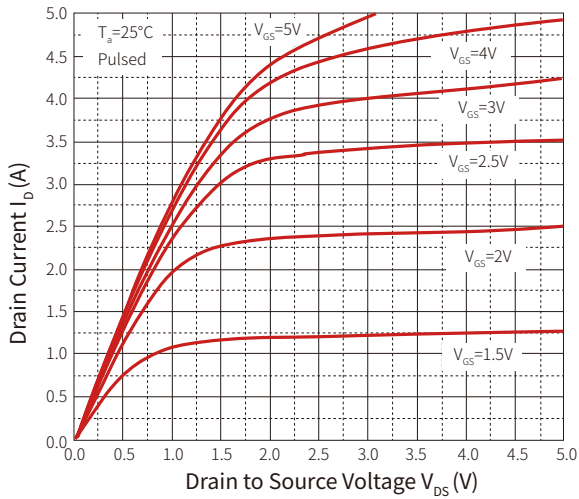
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20			V
Gate-source leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±10V			±20	μA
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	μA
Gate-source threshold voltage(note3)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.35		1.1	V
Drain-source on–state resistance(note3)	R _{DS(on)}	V _{GS} =4.5V, I _D =0.65A			380	mΩ
		V _{GS} =2.5V, I _D =0.55A			450	mΩ
		V _{GS} =1.8V, I _D =0.45A			800	mΩ
Forward tranconductance ^a	g _{fs}	V _{DS} =10V, I _D =0.8A	1			S
Diode forward voltage(note3)	V _{SD}	I _S =0.15A, V _{GS} =0V			1.2	V
Dynamic Characteristics(note4)						
Input capacitance	C _{iss}	V _{DS} =16V,V _{GS} =0V,f=1MHz			120	pF
Output capacitance	C _{oss}				20	pF
Reverse transfer capacitance	C _{rss}				15	pF
Switching Time(note4)						
Turn–on delay time	t _{d(on)}	V _{DD} =10V, R _{GEN} =10Ω, I _D =0.5A, V _{GS} =4.5V		6.7		ns
Rise Time	t _r			4.8		ns
Turn–Off Delay Time	t _{d(off)}			17.3		ns
Fall yime	t _f			7.4		ns

Notes :

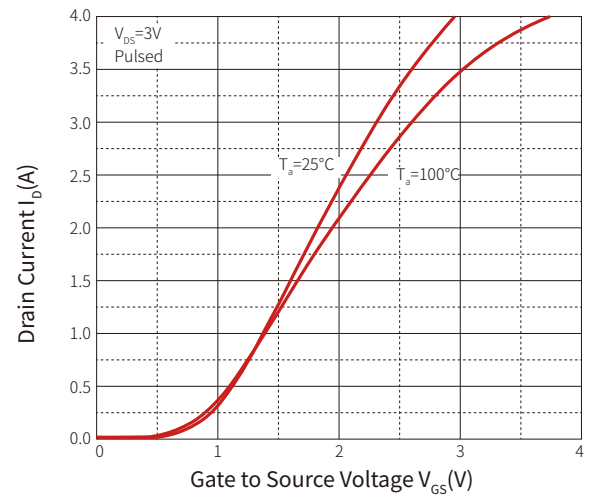
- 1.Repetitive Rating: Pulse width limited by maximum junction temperature.
- 2.This test is performed with on heat sink at Ta=25°C
- 3.Pulse Test: Pulse Width ≤300us, Duty Cycle≤0.5%
- 4.These parameters have no way to verify.

CHARACTERISTIC CURVES

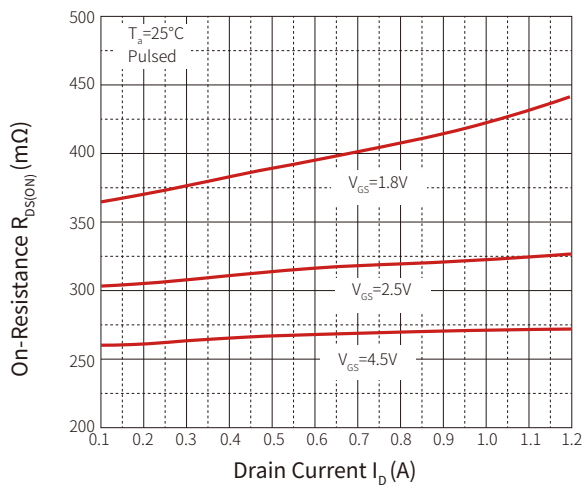
Output Characteristics



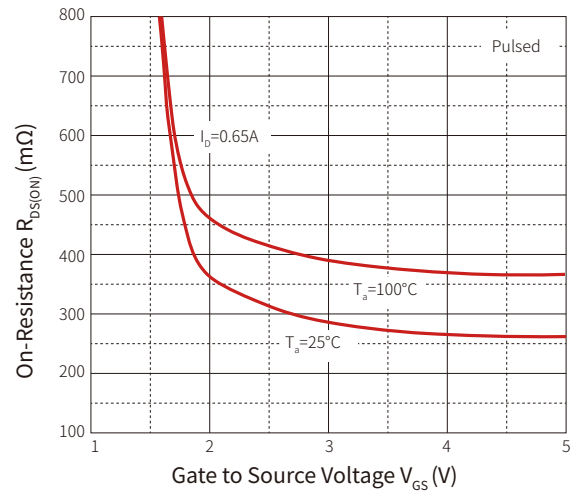
Transfer Characteristics

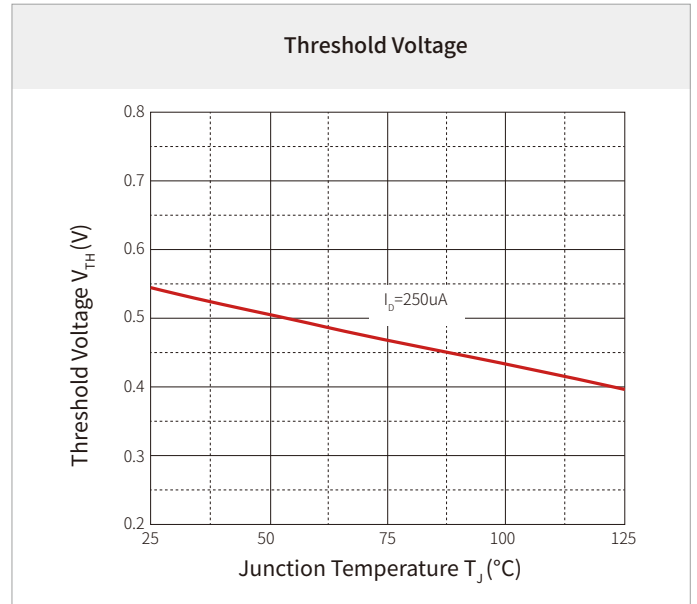
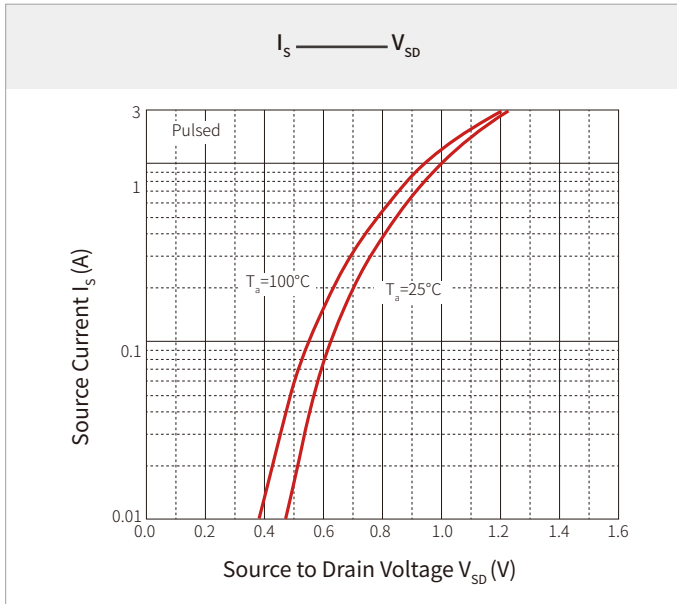


$R_{DS(ON)}$ — I_D



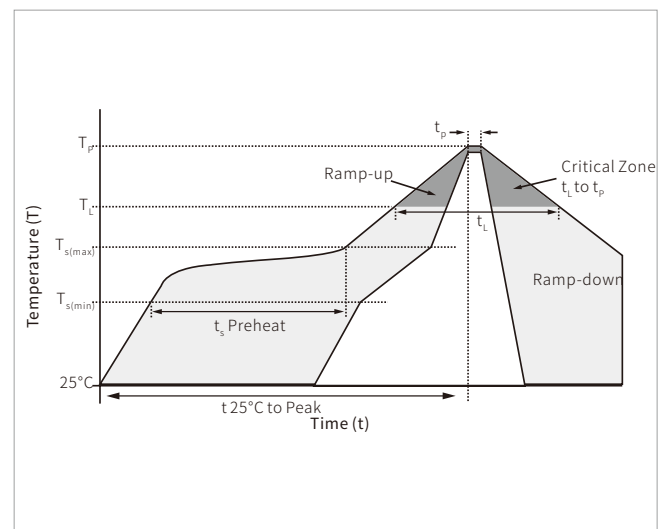
$R_{DS(ON)}$ — V_{GS}



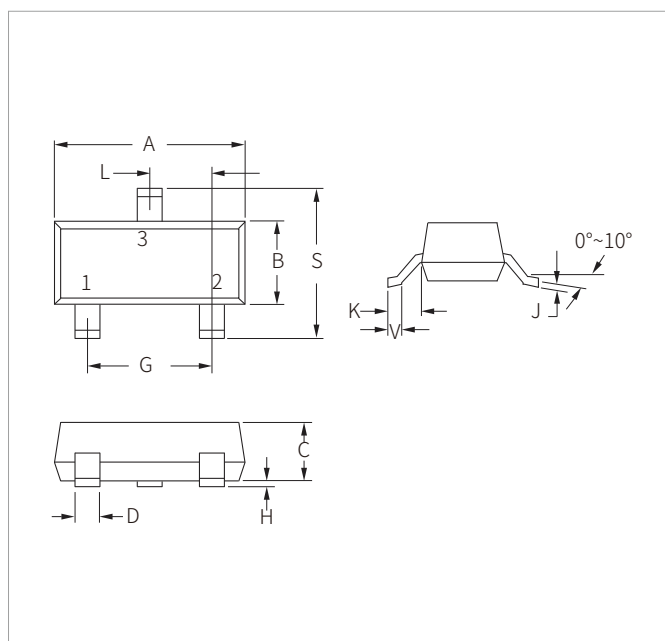


SOLDERING PARAMETERS

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 $^\circ\text{C}$

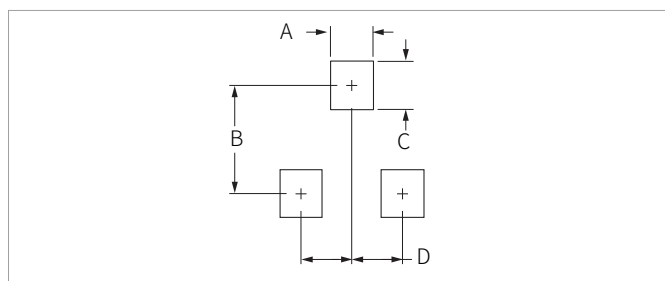


SOT-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.80	1.10	0.031	0.043
D	0.20	0.40	0.008	0.016
G	1.20	1.40	0.047	0.055
H	0.00	0.10	0.000	0.004
J	0.08	0.15	0.003	0.006
K	0.525REF		0.021REF	
L	0.650TYP		0.026TYP	
S	2.15	2.45	0.085	0.096
V	0.26	0.46	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	NOR	NOR
A	0.50	0.020
B	2.20	0.087
C	0.80	0.031
D	1.30	0.051

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM3134KW	SOT-323	3000PCS	7"

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