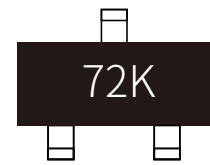


FEATURES

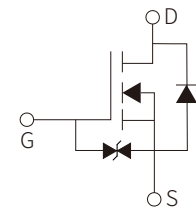
- | High Density Cell Design For Low $R_{DS(On)}$
- | Voltage Controlled Small Signal Switch
- | Rugged and Reliable
- | High Saturation Current Capability
- | ESD protected



Marking

APPLICATION

- | Load Switch for Portable Devices
- | DC/DC Converter



Schematic Symbol

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_{DSS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	340	mA
Pulsed Drain Current (Note 1)	I_{DM}	800	mA
Power Dissipation	P_D	0.2	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-50- +150	$^{\circ}\text{C}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$

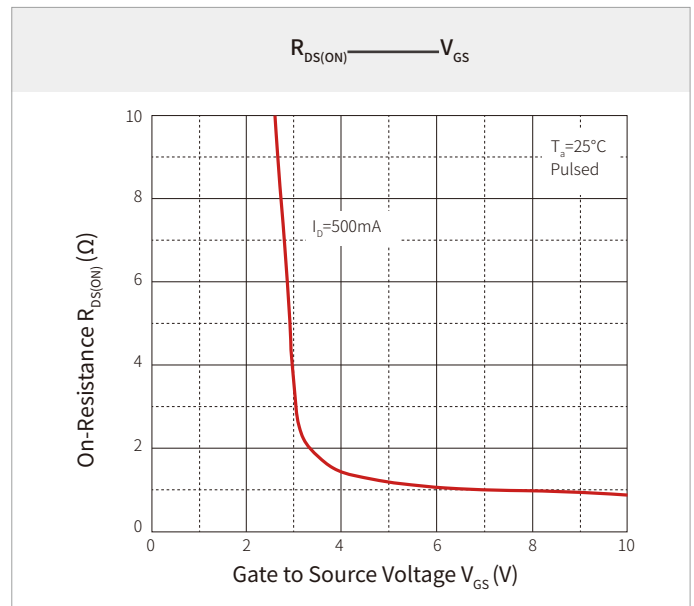
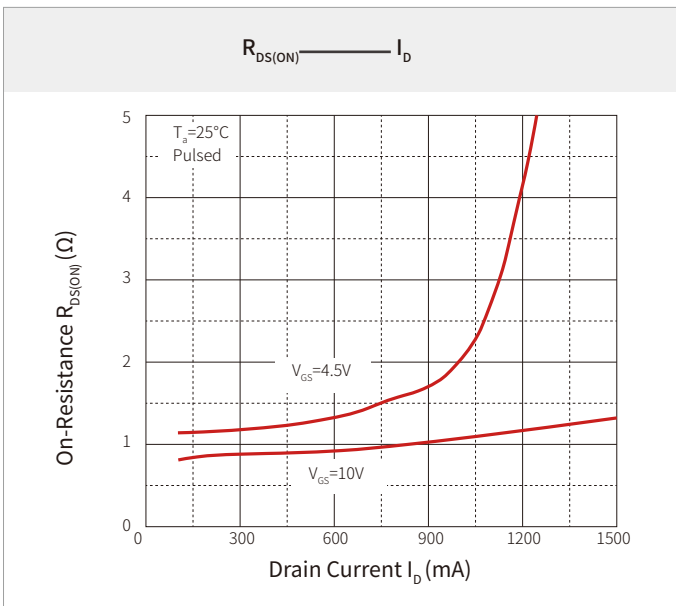
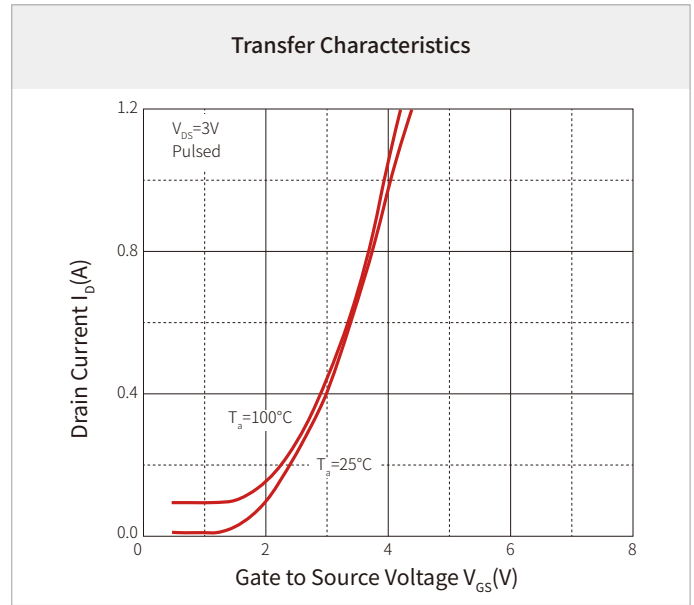
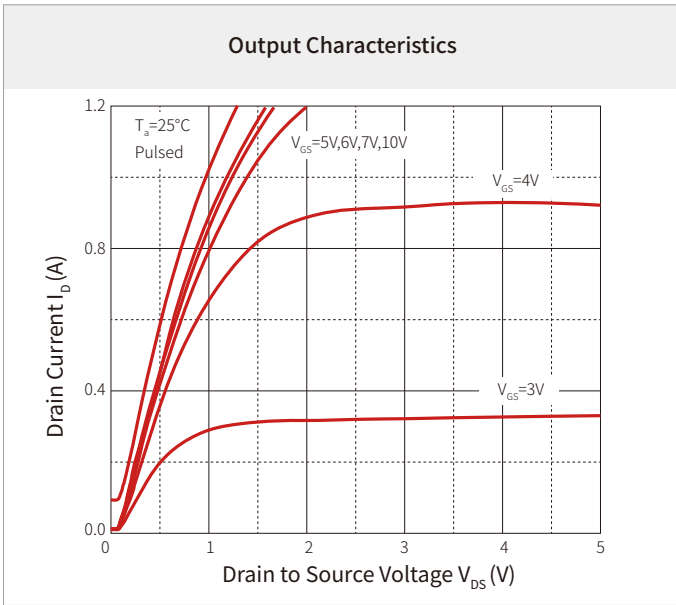
ELECTRICAL CHARACTERISTICS (T_A=25°C)

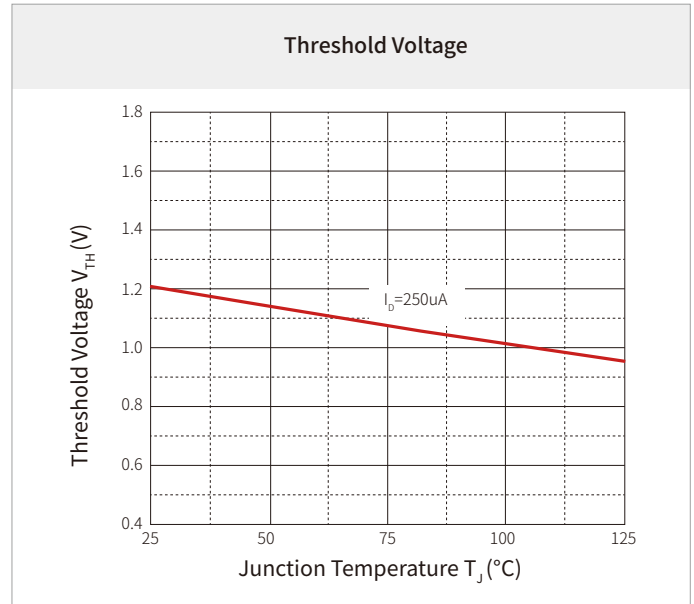
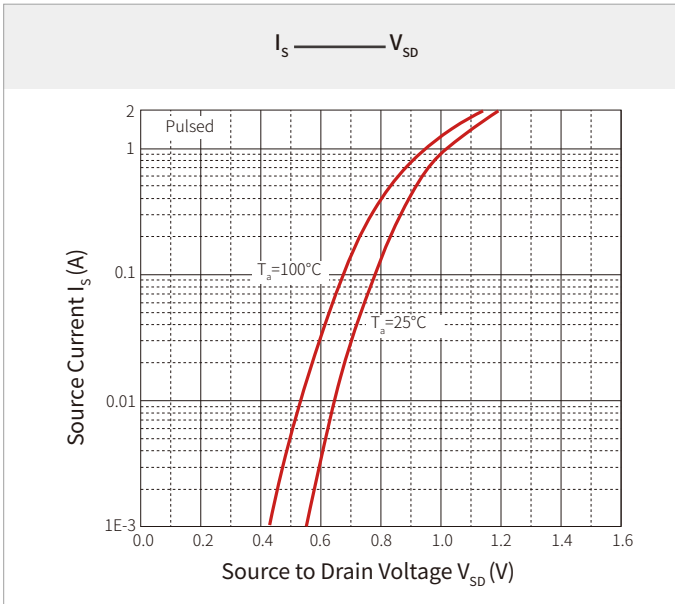
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	60			V
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±10	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =48V, V _{GS} =0V			1	μA
GateThreshold Voltage (Note 2)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =1mA	1	1.3	2.5	V
Drain-Source On-Resistance (Note 2)	R _{DS(on)}	V _{GS} =4.5V, I _D =200mA		1.1	5.3	Ω
		V _{GS} =10V, I _D =500mA		0.9	5	Ω
Dynamic Parameters (Note 3)						
Input capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz			40	pF
Output capacitance	C _{oss}				30	pF
Reverse transfer capacitance	C _{rss}				10	pF
Switching Parameters(Note 3)						
Turn-on Delay Time	t _{d(on)}	V _{GS} =10V, V _{DD} =50V, R _G =50Ω R _{GS} =50Ω, R _L =250Ω			10	ns
Turn-off Delay Time	t _{d(off)}				15	ns
Reverse Recovery Time	t _{rr}	V _{GS} =0V, I _S =300mA, V _R =25V, dI _S /dt=-100A/us		30		ns
Recovered Charge	Q _r			30		nC
Gate-source Zener Diode						
Gate-Source Breakdown Voltage	BV _{GSO}	I _{GS} =±1mA(Open Drain)	±21.5		±30	V
Drain-source Diode						
Diode Forward Voltage(Note 2)	V _{SD}	I _S =300mA, V _{GS} =0V			1.5	V
Continuous Diode Forward Current	I _S				0.2	A
Pulsed Diode Forward Current(Note1)	I _{SM}				0.53	A

Notes :

1. Repetitive rating: Pulse width limited by junction temperature.
2. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
3. Guaranteed by design, not subject to production testing.

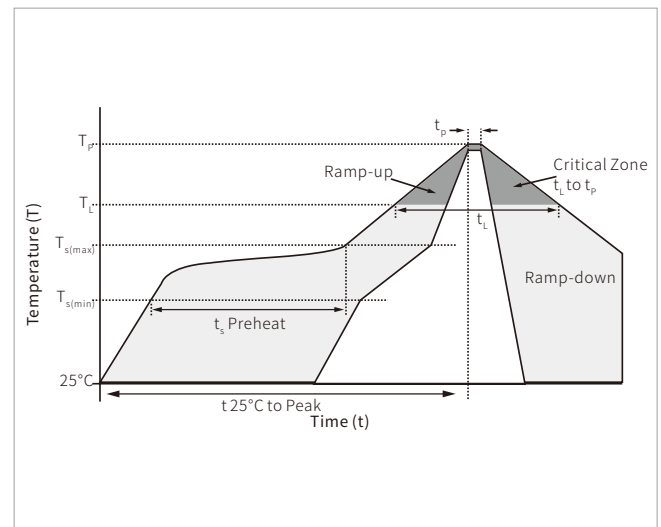
CHARACTERISTIC CURVES



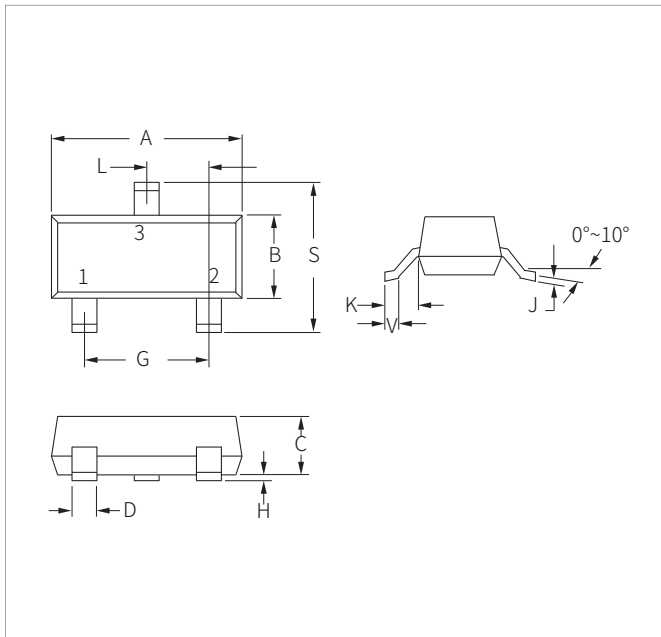


SOLDERING PARAMETERS

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 $^\circ\text{C}$

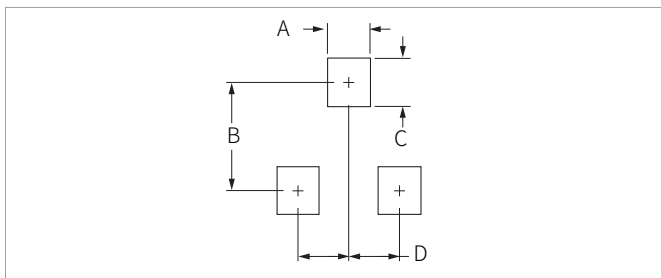


SOT-323 PACKAGE INFORMATION



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
2N7002KW	SOT-323	3000PCS	7"

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By QR Code

Website



Wechat

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