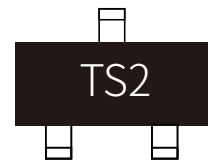


FEATURES

- | High Density Cell Design For Low $R_{DS(On)}$
- | Voltage Controlled Small Signal Switch
- | Rugged and Reliable
- | High Saturation Current Capability
- | Lead free product is acquired



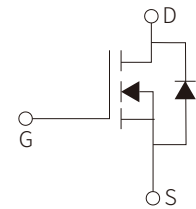
SOT-723



Marking

APPLICATION

- | Direct logic-level interface: TTL/CMOS
- | Drivers: relays, solenoids, lamps
- | hammers, display, memories, etc.
- | Battery operated systems
- | Solid-state relays



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}	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current	I_D	2.1	A
Continuous Source-Drain Current(Diode Conduction)	I_S	0.6	A
Power Dissipation	P_D	0.2	W
Junction Temperature	T_J	-50- +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-50- +150	$^{\circ}\text{C}$
Thermal Resistance from Junction to Ambient ($t \leq 5s$)	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

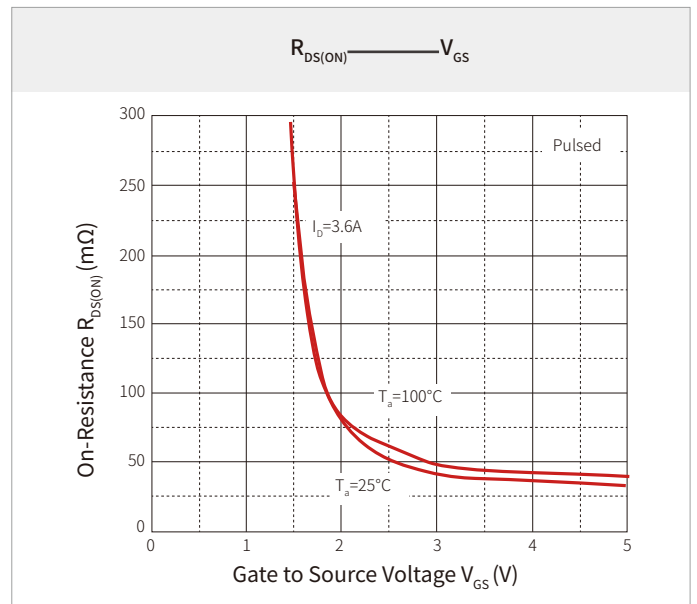
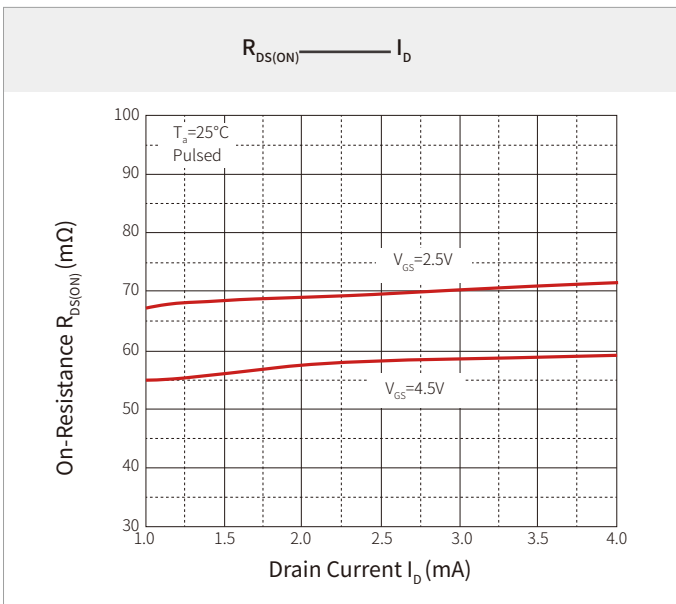
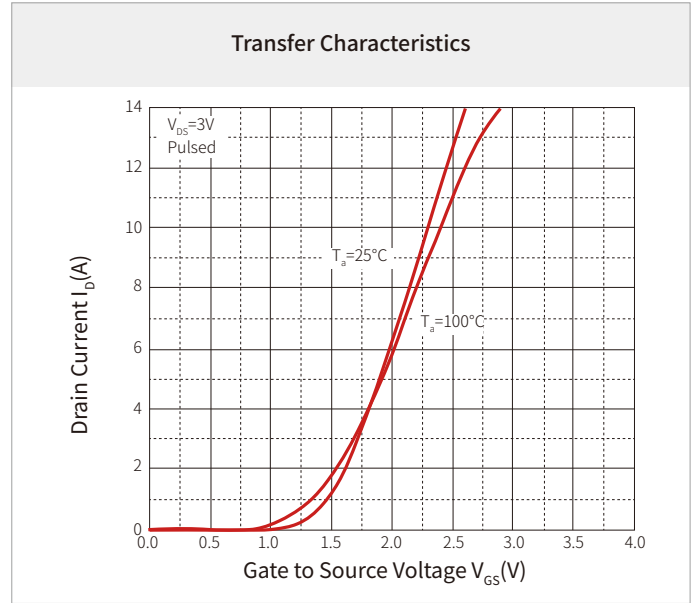
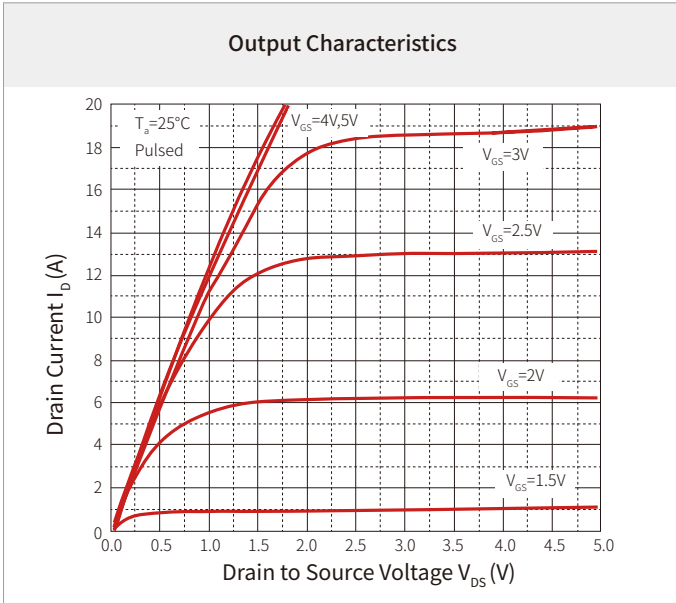
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =10μA	20			V
Gate-source leakage ^a	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	μA
Gate-source threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =50μA	0.65	0.95	1.2	V
Drain-source on-state resistance ^a	R _{DS(on)}	V _{GS} =4.5V, I _D =3.6A		0.059	0.068	Ω
		V _{GS} =2.5V, I _C =3.1A		0.070	0.115	Ω
Forward tranconductance ^a	g _{fs}	V _{DS} =5V, I _D =3.6A		8		S
Diode forward voltage ^a	V _{SD}	I _S =0.94A, V _{GS} =0V		0.76	1.2	V
Dynamic Characteristics^b						
Input capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz		300		pF
Output capacitance	C _{oss}			120		pF
Reverse transfer capacitance	C _{rss}			80		pF
Total gate charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =3.6A		4.0	10	nC
Gate-source charge	Q _{gS}			0.65		nC
Gate-drain charge	Q _{gD}			1.5		nC
Switching^b						
Turn-on delay time	t _{d(on)}	V _{DD} =10V, R _L =5.5Ω, I _D ≈3.6A, V _{GEN} =4.5V, R _g =6Ω		7	15	ns
Rise Time	t _r			55	80	ns
Turn-Off Delay Time	t _{d(off)}			16	60	ns
Fall yime	t _f			10	25	ns

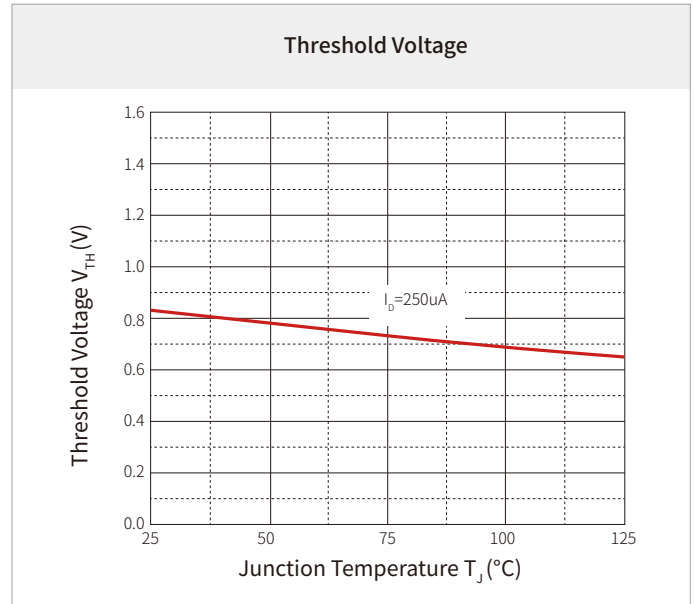
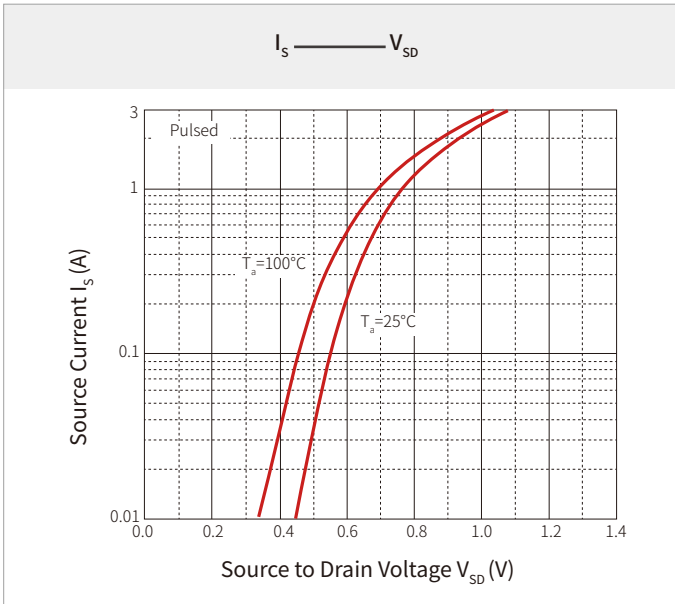
Notes:

a. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

b. These parameters have no way to verify.

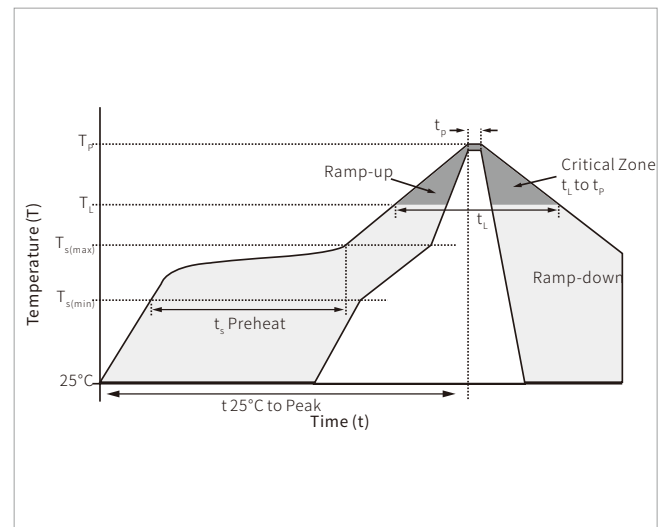
CHARACTERISTIC CURVES



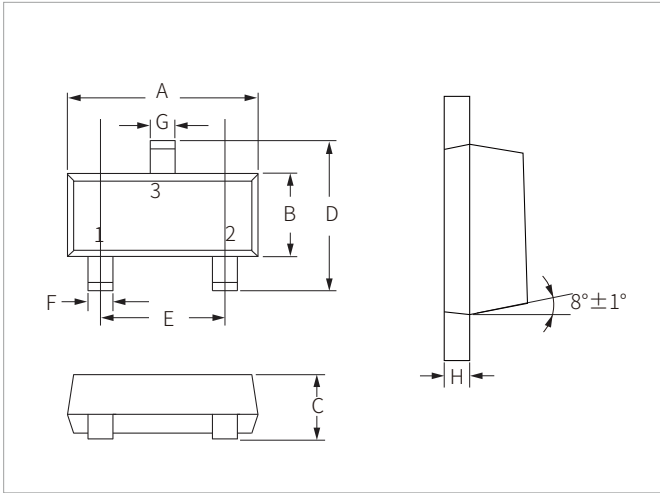


SOLDERING PARAMETERS

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 $^\circ\text{C}$

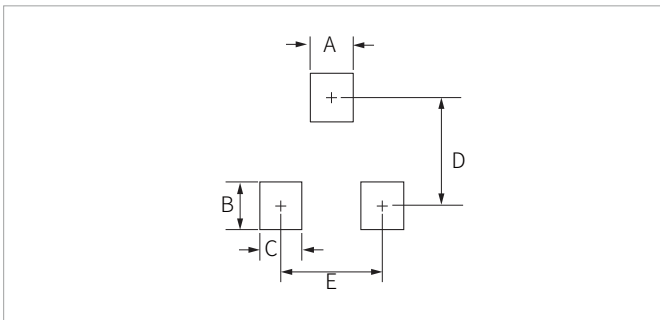


SOT-723 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.10	1.30	0.043	0.051
B	0.70	0.90	0.028	0.035
C	0.30	0.50	0.014	0.020
D	1.10	1.30	0.043	0.051
E	0.80TYP		0.031TYP	
F	0.175	0.25	0.007	0.010
G	0.225	0.30	0.009	0.012
H	0.09	0.13	0.003	0.005

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Dimensions	Dimensions
A	0.50	0.020
B	0.45	0.018
C	0.40	0.016
D	1.15	0.045
E	0.80	0.031

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM2102-7S	SOT-723	3000PCS	7"

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By QR Code

Website



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