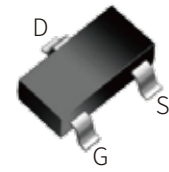
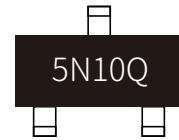


FEATURES

- | Surface-mounted package
- | Advanced trench cell design
- | High saturation current capability
- | Load Switch for portable Devices
- | Meet AEC-Q101 Requirements



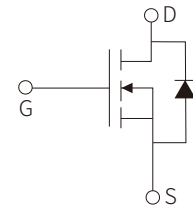
SOT-23



Marking

APPLICATION

- | LCD TV appliances
- | LCDM appliances
- | High power inverter system



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_{DS}	100	V
Continuous Drain Current @10V ¹	I_D	$T_A=25^{\circ}\text{C}$	5.0
		$T_A=70^{\circ}\text{C}$	3.2
Pulsed Drain Current ²	I_{DM}	12	A
Gate Source Voltage	V_{GS}	± 20	V
Total Power Dissipation ³ $T_A=25^{\circ}\text{C}$	P_D	2.5	W
Thermal Resistance Junction-ambient ¹	$R_{\theta JA}$	74	$^{\circ}\text{C}/\text{W}$
Thermal Resistance Junction-Case ¹	$R_{\theta JC}$	80	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

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 _{DS} =250μA	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.1	1.65	2.2	V
Drain Cut-Off Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V			1	μA
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
Drain Source ON Resistance	R _{DS(on)}	V _{GS} =10V, I _D =3A		92	120	mΩ
		V _{GS} =4.5V, I _D =1A		118	154	mΩ
Dynamic Characteristics						
Total Gate Charge	Q _g	V _{DS} =50V, V _{GS} =10V, I _D =2A		18		nC
Gate-Source Charge	Q _{gs}			2.5		nC
Gate-Drain Charge	Q _{gd}			4		nC
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f=1.0MHz		765		pF
Output capacitance	C _{oss}			38		pF
Reverse transfer capacitance	C _{rss}			33		pF
Turn-on Delay Time	t _{d(on)}	V _{DS} =50V, V _{GS} =10V I _D =3A, R _G =1.8Ω		7.5		ns
Turn-on Rise Time	t _r			6		ns
Turn-Off Delay Time	t _{d(off)}			21		ns
Turn-Off Fall Time	t _f			9		ns
Drain Source Body Diode Characteristics						
Source Drain Diode Forward Voltage	V _{SD}	I _S =3A, V _{GS} =0V			1.2	V
Maximum Continuous Drain to Source Diode Forward Current	I _S				5	A
Maximum Pulsed Drain to Source Diode Forward Current	I _{SM}				12	A
Body Diode Reverse Recovery Time	t _{rr}	I _F =3A, di/dt= 100A/μs		21		ns
Body Diode Reverse Recovery Charge	Q _{rr}				22	

Notes:

1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
2. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 0.5%

PARAMETER CHARACTERISTIC CURVE

Figure 1: Output Characteristics

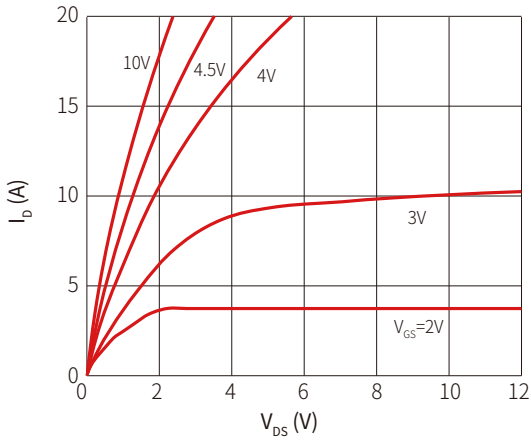


Figure 2: Typical Transfer Characteristics

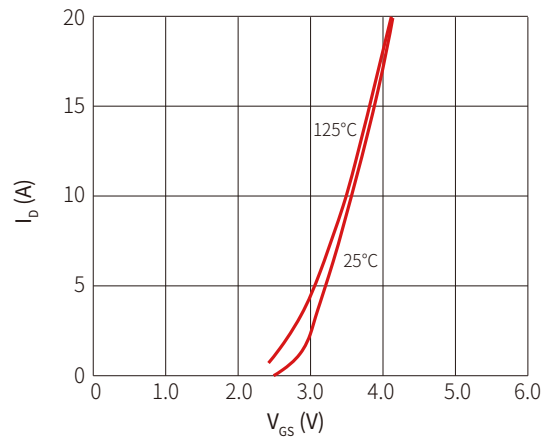


Figure 3: On-resistance vs. Drain Current

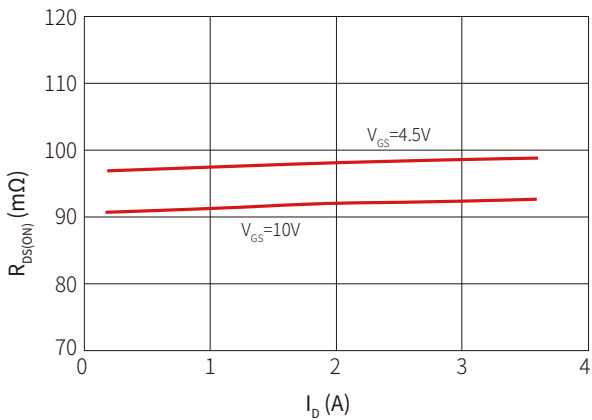


Figure 4: Body Diode Characteristics

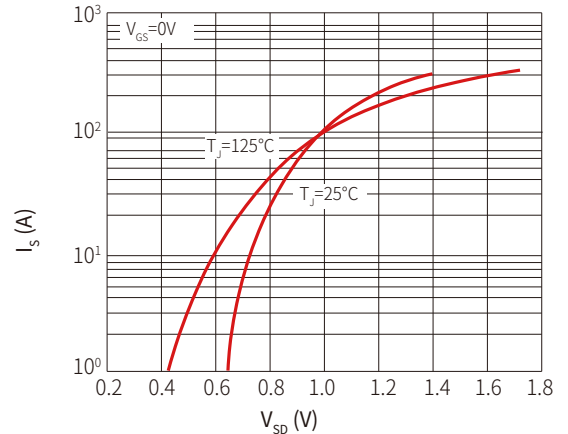


Figure 5: Gate Charge Characteristics

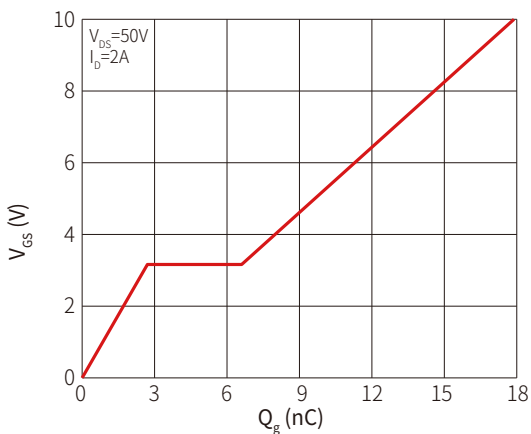


Figure 6: Capacitance Characteristics

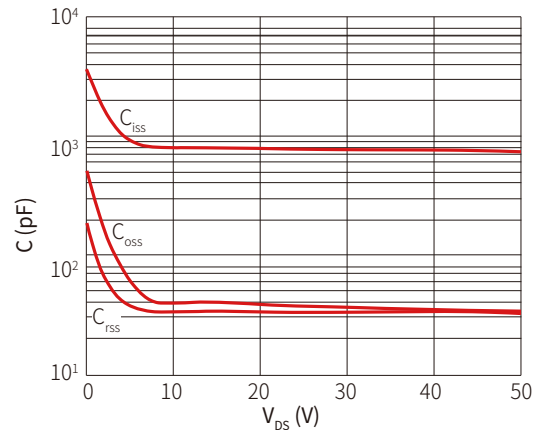


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

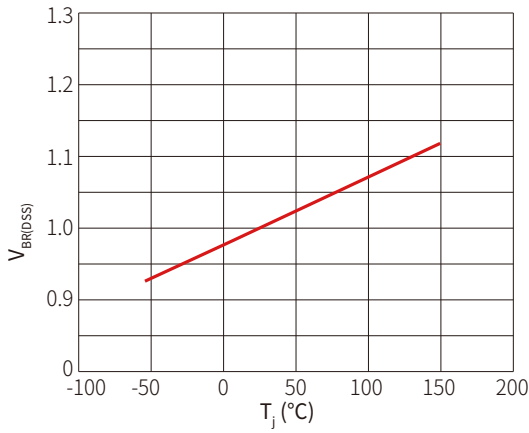


Figure 8: Normalized on Resistance vs. Junction Temperature

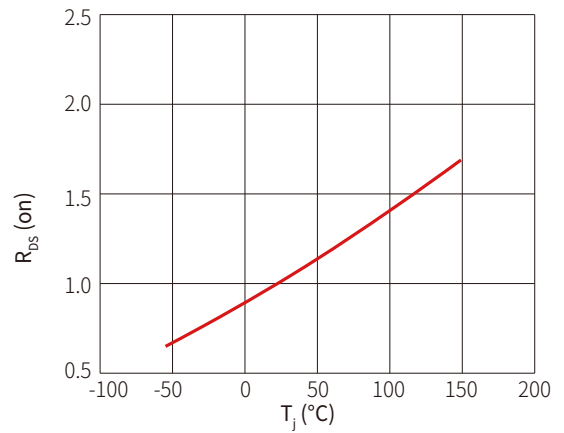


Figure 9: Maximum Safe Operating Area

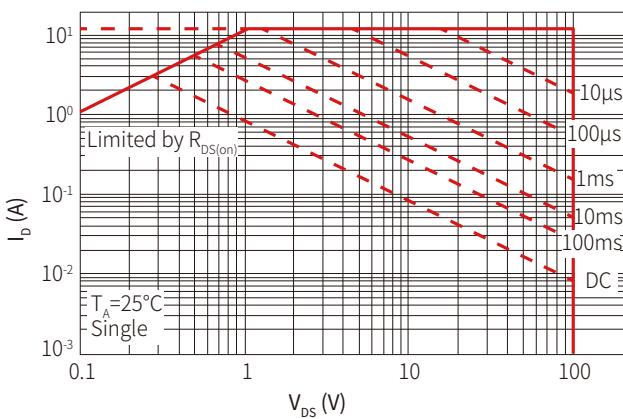


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

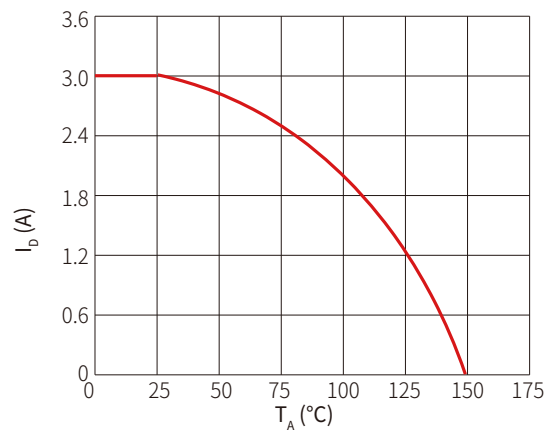
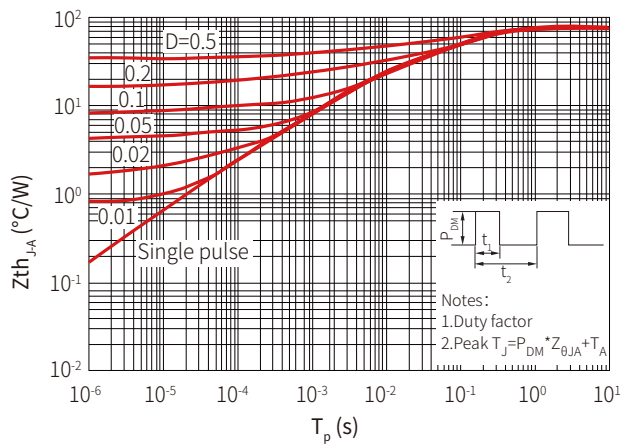
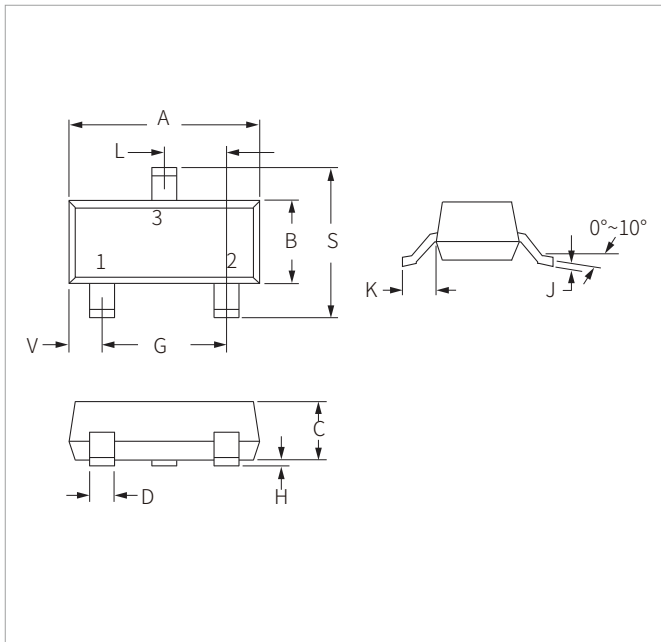


Figure 11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

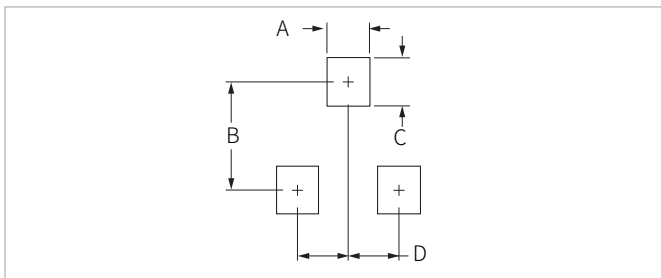


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.60	0.047	0.063
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM5N10SQ	SOT-23	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



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