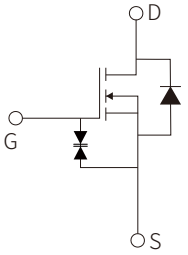
FEATURES

- V_{DS}=30V,I_D=5.8A
- $R_{DS(ON)\ Typ}$ = 19.3mΩ @ V_{GS} = 4.5V
- $R_{DS(ON)\ Typ}$ = 25mΩ @ V_{GS} = 2.5V
- $R_{DS(ON)\ Typ}$ = 51mΩ @ V_{GS} = 1.8V
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- Lead Free
- ESD Protected: 2KV

SOT-23

Marking



Schematic Symbol

APPLICATION

- Load Switch
- PWM Application
- Power Management

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_{DS}	30	V
Continuous Drain Current	T_A=25°C	I_D	5.8	A
	T_A=100°C		3.48	
Pulsed Drain Current[1]		I_{DM}	23.2	A
Gate Source Voltage		V_{GS}	±10	V
Total Power Dissipation[2] T_A=25°C		P_D	1.4	W
Thermal Resistance Junction-ambient [2]		$R_{\theta JA}$	89	°C/W
Junction and Storage Temperature Range		T_J,T_{STG}	-55 to 150	°C

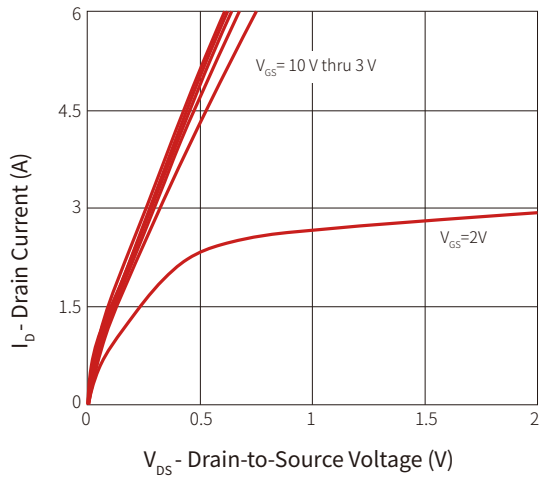
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	30			V
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±10V			±10	μA
Drain-to-Source Leakage Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1.0	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.4	0.6	0.8	V
Static Drain-Source On-Resistance (1)	$R_{DS(on)}$	V_{GS}=4.5V, I_D=3A		19.3	25	mΩ
		V_{GS}=2.5V, I_D=2A		25	32.5	mΩ
		V_{GS}=1.8V, I_D=1.5A		51	66	mΩ
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=15V,V_{GS}=0V,f=1MHz		620		pF
Output capacitance	C_{oss}			63		pF
Reverse transfer capacitance	C_{rss}			50		pF
Total gate charge	Q_g	V_{GS}=0V to 10V V_{DS}=15V,I_D=5A		15		nC
Gate-source charge	Q_{gs}			2		nC
Gate-drain charge	Q_{gd}			3		nC
Switching Characteristics						
Turn–on delay time	$t_{d(on)}$	V_{DD}=15V, I_D=5A R_{GEN}=3Ω,V_{GS}=10V		6		ns
Rise Time	t_r			4		ns
Turn–Off Delay Time	$t_{d(off)}$			15		ns
Fall yime	t_f			4.5		ns
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Continuous Drain to Source Diode Forward Current	I_S				5.8	A
Maximum Pulsed Drain to Source Diode Forward Current	I_{SM}				23.2	A
Drain to Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=3A			1.2	V

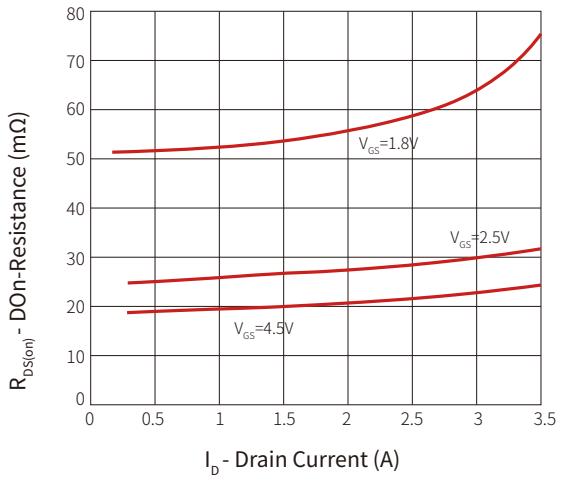
Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
2.$R_{\theta JA}$ is measured with the device mounted on a 1inch² pad of 2oz copper FR4 PCB
3.Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

CHARACTERISTIC CURVES

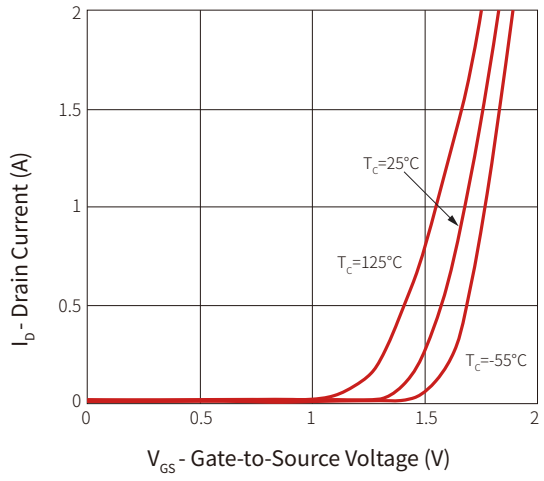
Output Characteristics



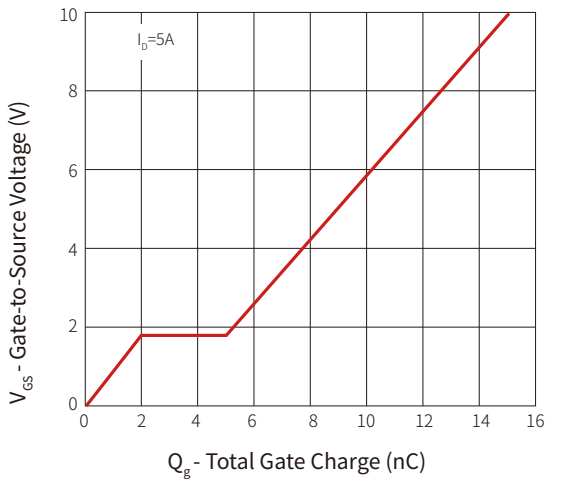
Gate Source Voltage vs. Gate Current



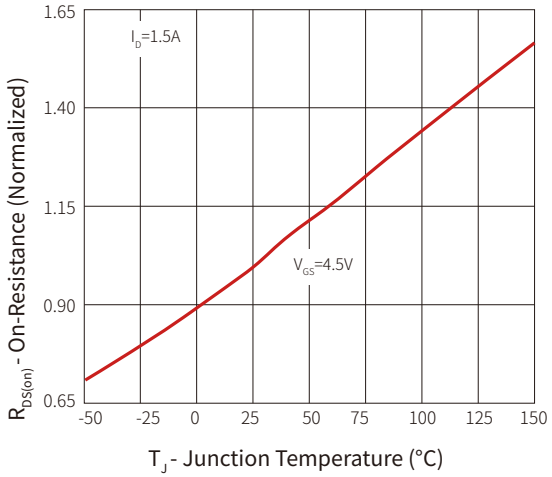
Transfer Characteristics



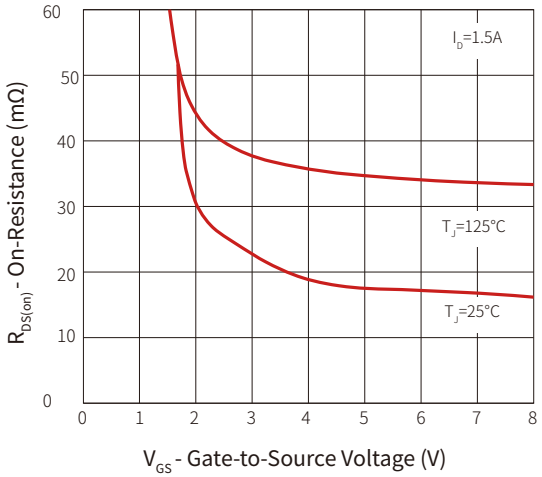
Gate Charge



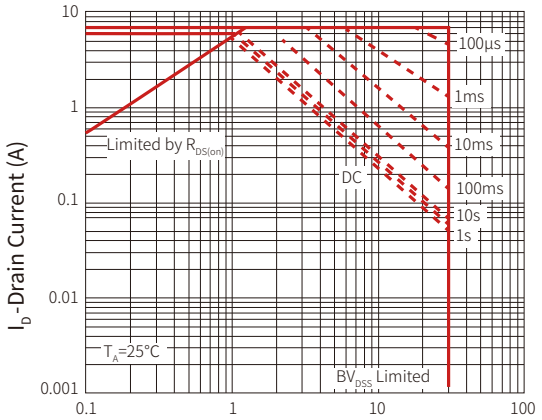
On-Resistance vs. Junction Temperature



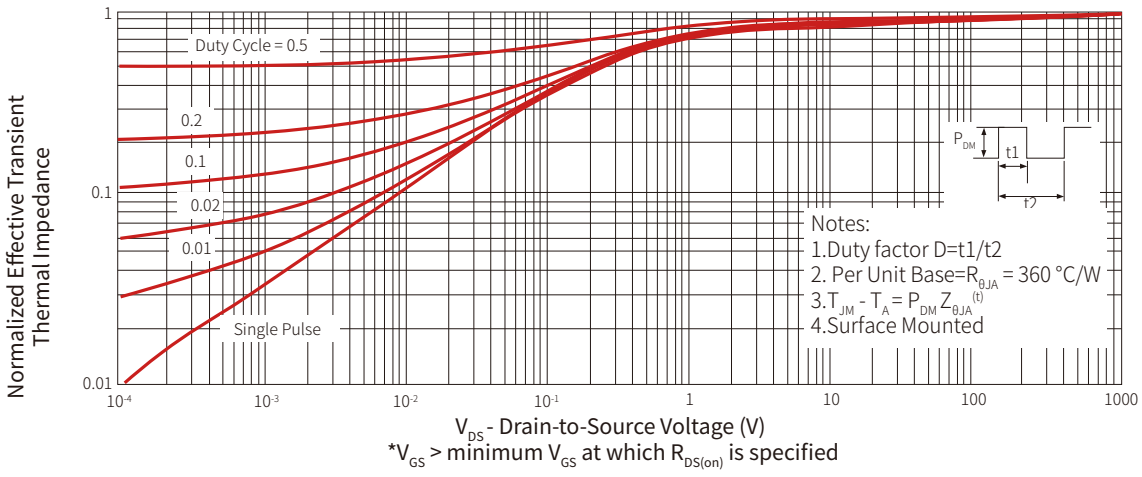
On-Resistance vs. Gate-to-Source Voltage



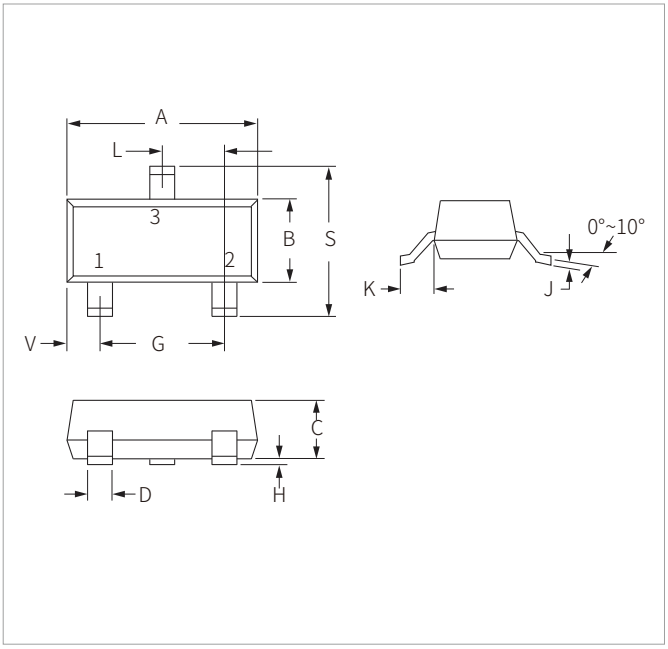
Safe Operating Area, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Ambient

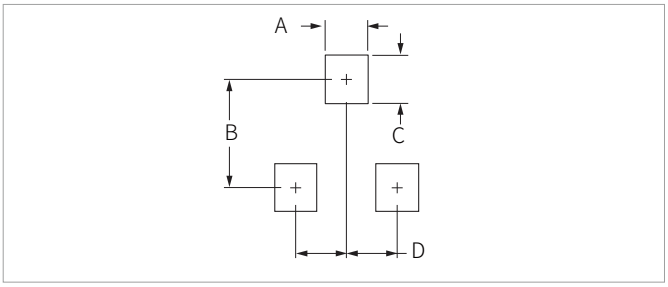


SOT-23 PACKAGE INFORMATION



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
SNM0322K	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

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