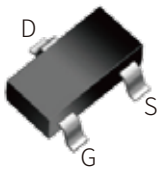
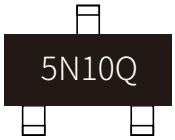
FEATURES

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



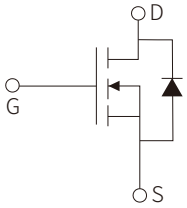
SOT-23



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°C)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	100	V
Continuous Drain Current @10V [1]	T_A=25°C	I_D	5.0	A
	T_A=70°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°C		P_D	2.5	W
Thermal Resistance Junction-ambient [1]		$R_{\theta JA}$	74	°C/W
Thermal Resistance Junction-Case [1]		$R_{\theta JC}$	80	°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_{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		nC

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

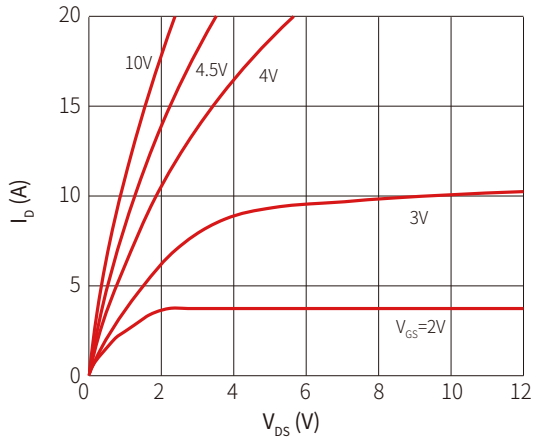


Figure 2: Typical Transfer Characteristics

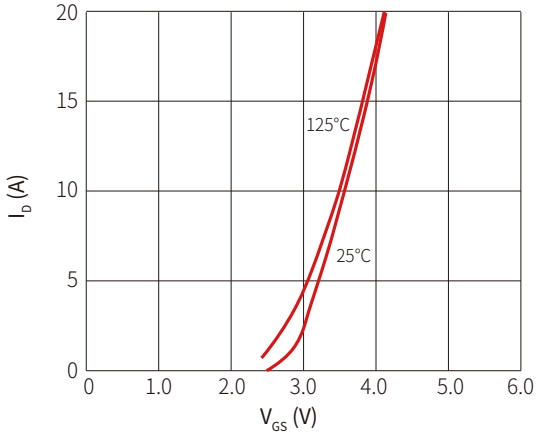


Figure 3:On-resistance vs. Drain Current

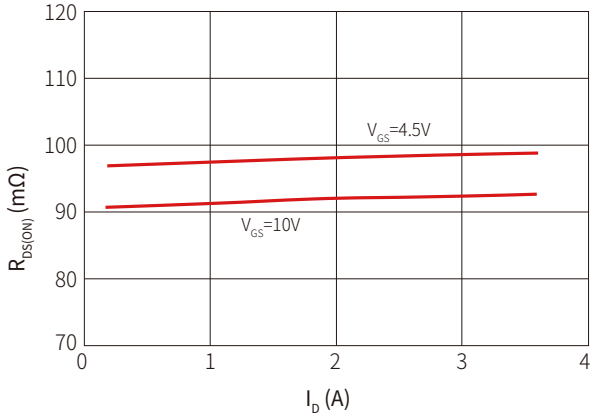


Figure 4:Body Diode Characteristics

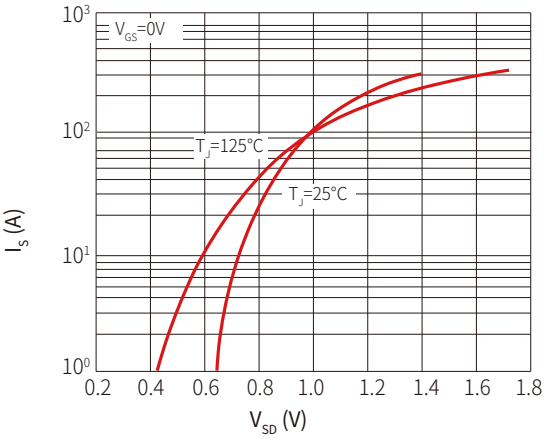


Figure 5:Gate Charge Characteristics

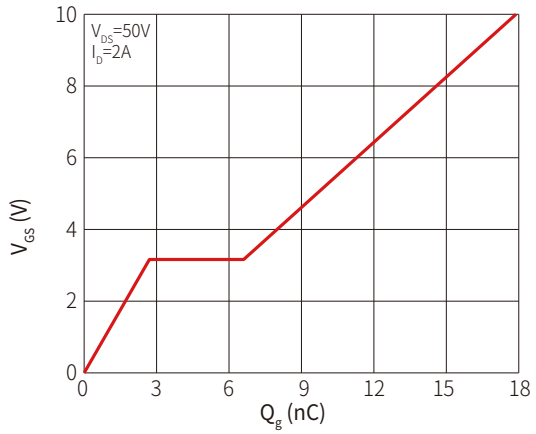


Figure 6:Capacitance Characteristics

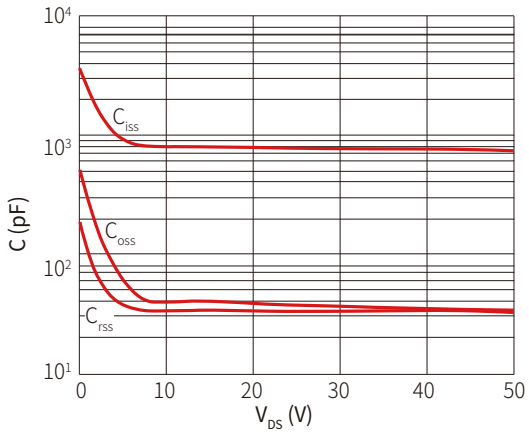


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

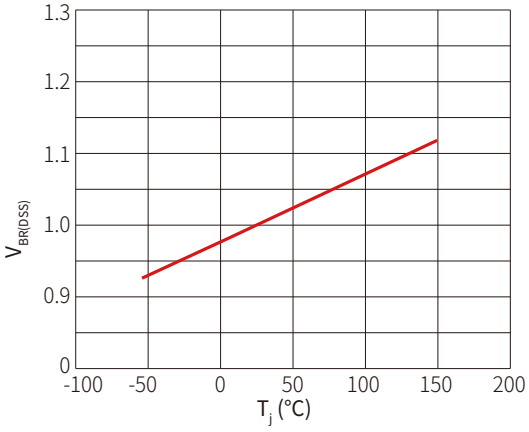


Figure 8: Normalized on Resistance vs. Junction Temperature

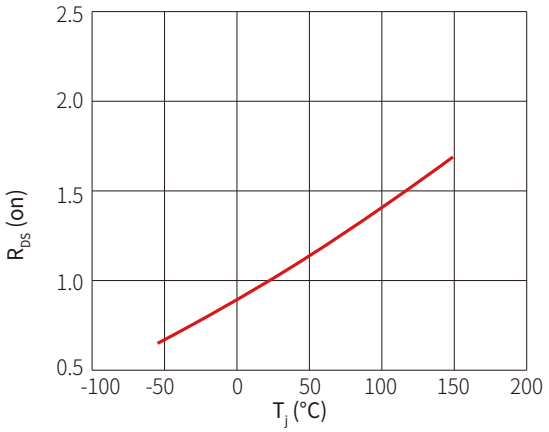


Figure 9: Maximum Safe Operating Areaedance

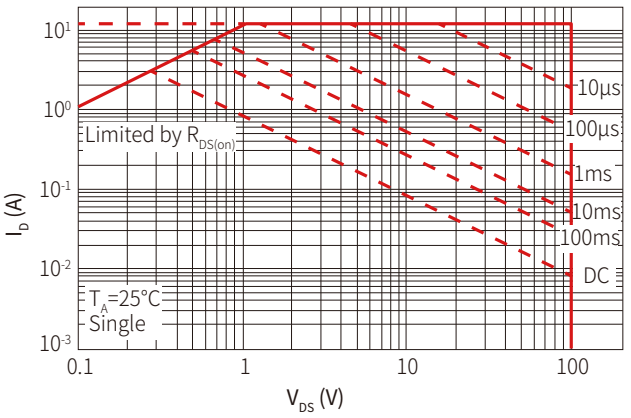


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperat

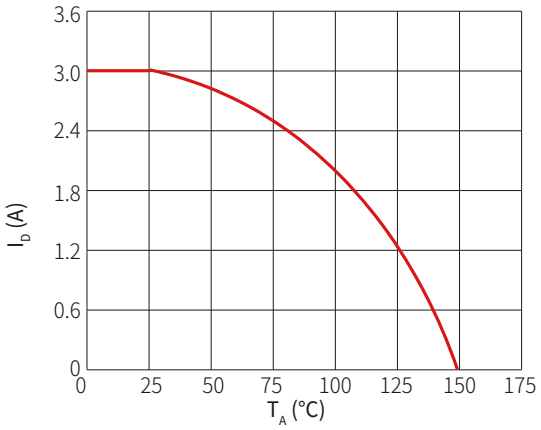
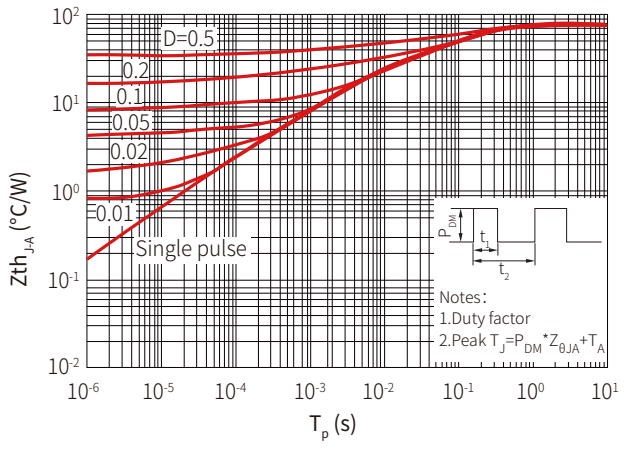
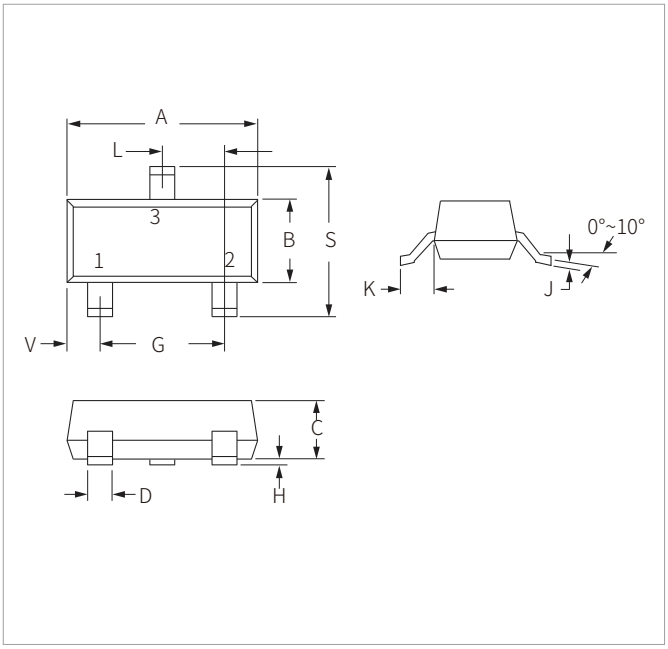


Figure 11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

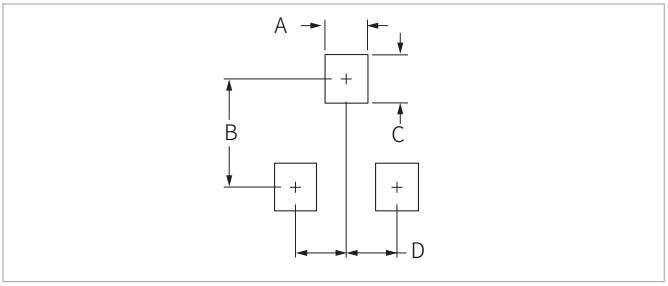


SOT-23 PACKAGE INFORMATION



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”

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