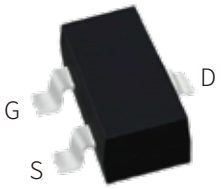
FEATURES

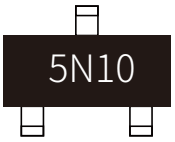
- V_{DS}=100V I_D=5A
- $R_{DS(on)}$@10V≤144mΩ(Typ.120mΩ)
- $R_{DS(on)}$@4.5V≤164mΩ(Typ.126mΩ)



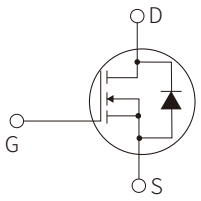
SOT-23-3L

APPLICATION

- Power management in TV Inverter. Power Switch



Marking



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	100	V
Drain Current- Pulsed	I_{DM}	15	A
Maximum Drain Current - Continuous	I_D	5.0	A
Gate-Source Voltage	V_{GSS}	±20	V
Power Dissipation	P_D	1.55	W
Maximum Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C
Maximum Resistance –Junction to Ambient	$R_{\theta JA}$	80.7	°C/W

ELECTRICAL CHARACTERISTICS(T_a=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250μA	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V,V_{GS}=0V			1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	1.2	1.7	2.3	V
Static Drain-Source On–Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=5.0A		120	144	mΩ
		V_{GS}=4.5V,I_D=3.0A		126	164	
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_F=1A			1.3	V
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1.0MHz		200		pF
Output Capacitance	C_{oss}			150		
Reverse Transfer Capacitance	C_{rss}			30		
Turn–On Delay Time	$t_{d(on)}$	I_{DS}=1A ,V_{GEN}=10V V_{DD}=30V ,R_L=30Ω R_G=6Ω		11		ns
Turn–On Rise Time	t_r			10		
Turn–Off Delay Time	$t_{d(off)}$			21		
Turn–Off Fall Time	t_f			5		
Total Gate Charge	$Q_{g(4.5V)}$	V_{GS}=10V,V_{DS}=50V,I_{DS}=5A		9.5		nC
Gate Source Charge	Q_{gs}			1.9		
Gate Drain Charge	Q_{gd}			2.1		

PARAMETER CHARACTERISTIC CURVE

Figure1: Power Capability

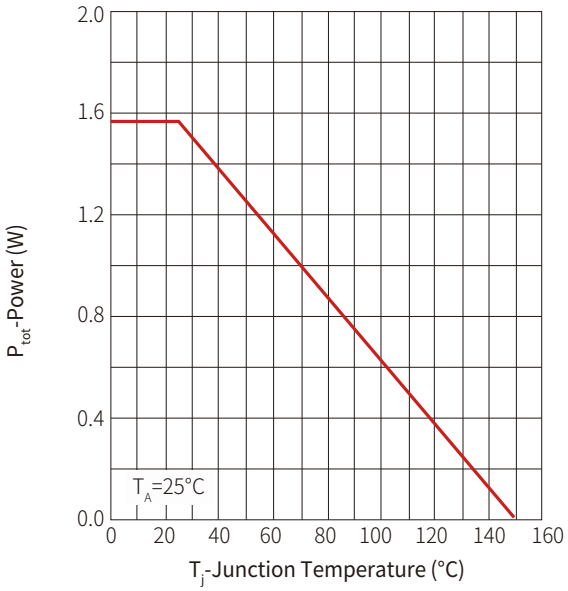


Figure2: Drain Current

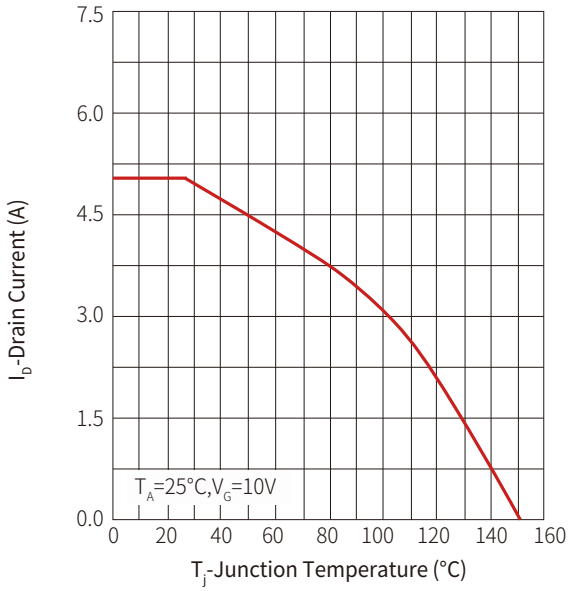


Figure3: Safe Operation Area

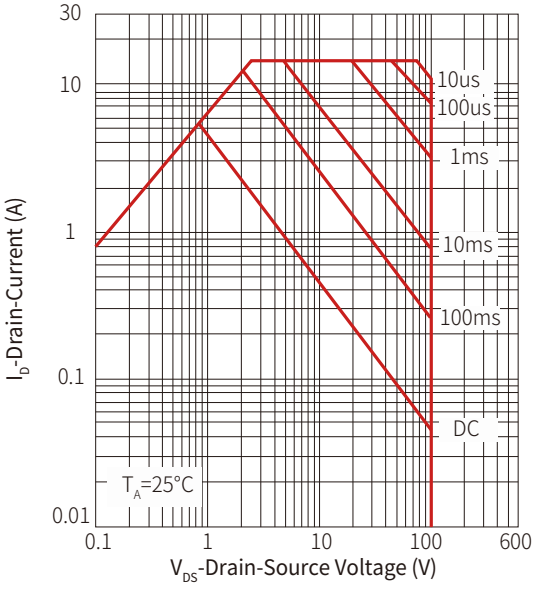


Figure 4: Transient Thermal Impedance

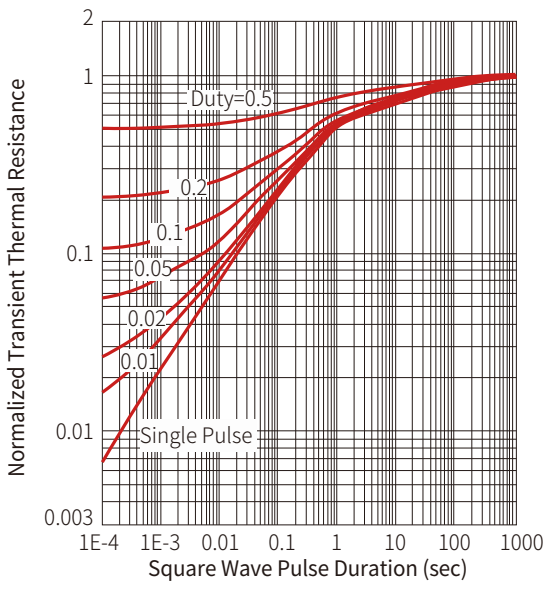


Figure 5:Output Characteristics

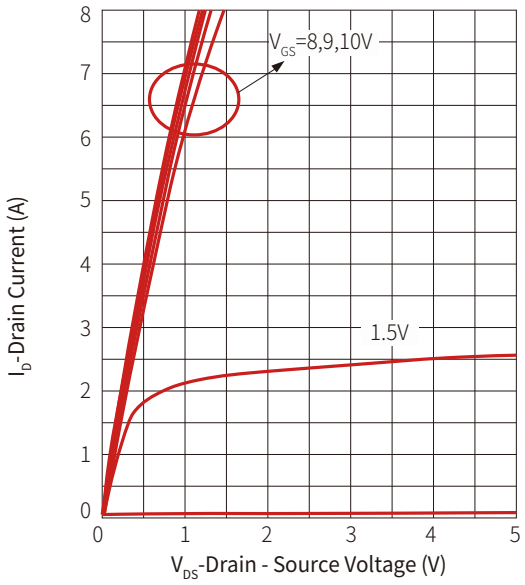


Figure 6: Drain-Source On Resistance

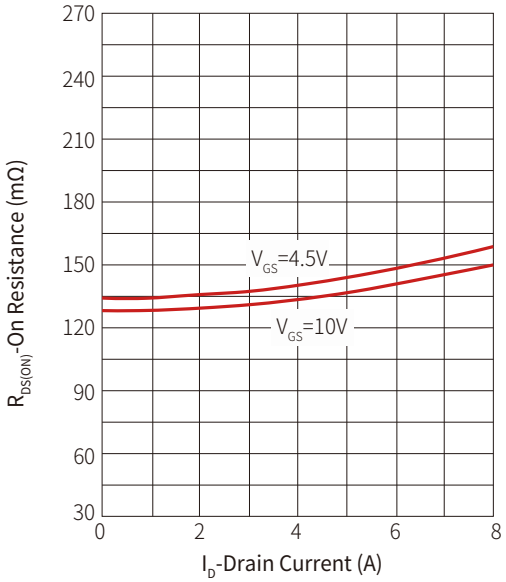


Figure 7:Gate-Source On Resistance

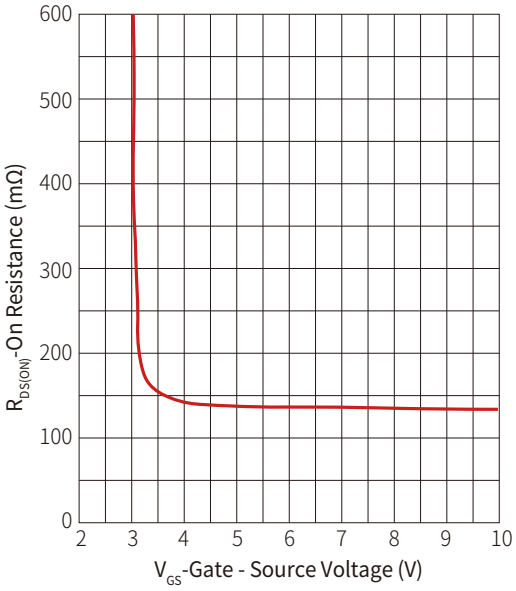


Figure 8: Gate Threshold Voltage

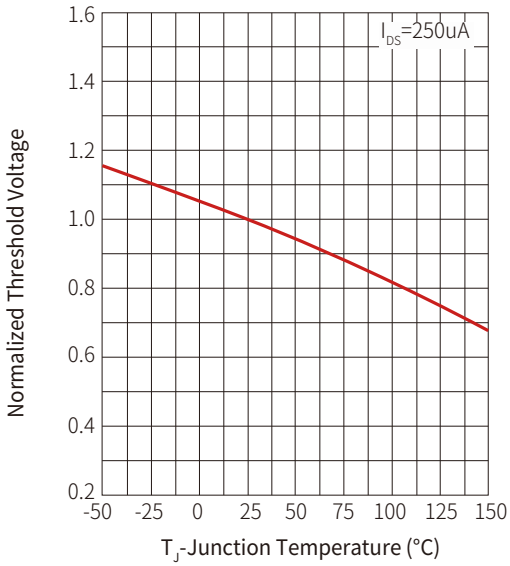


Figure 9:Drain-Source On Resistance

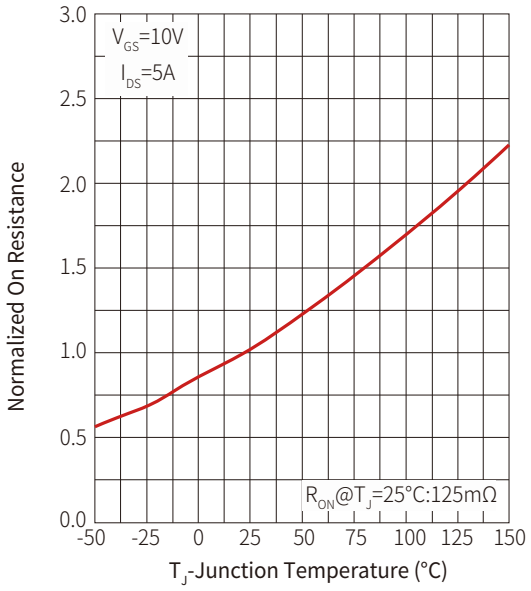


Figure 10: Source-Drain Diode Forward

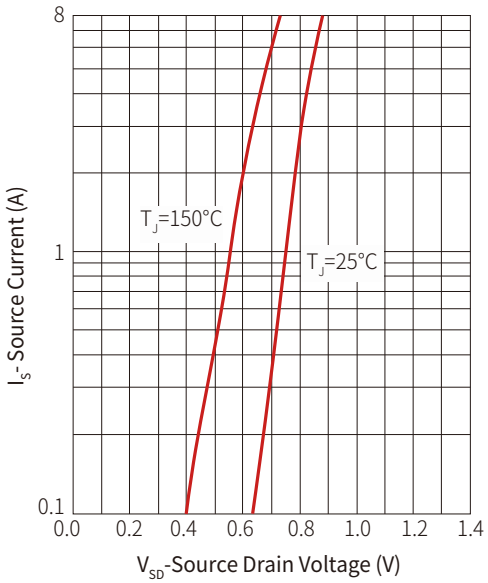


Figure 11:Capacitance

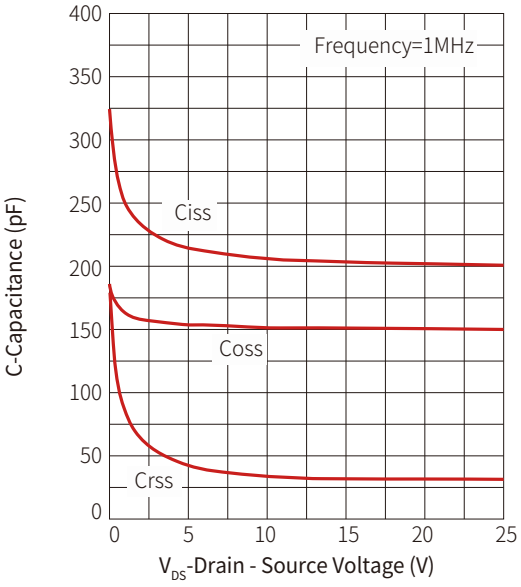
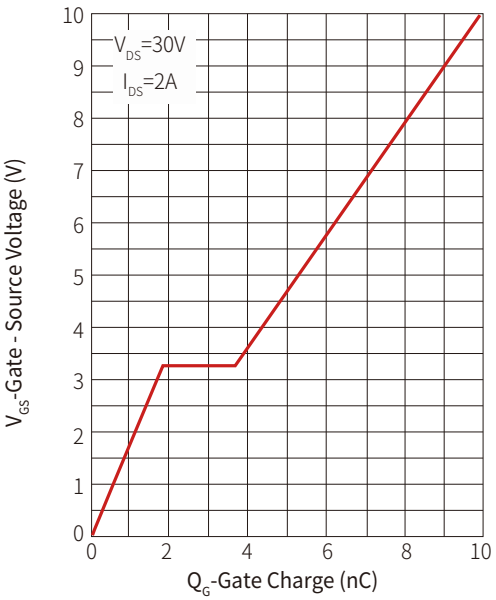
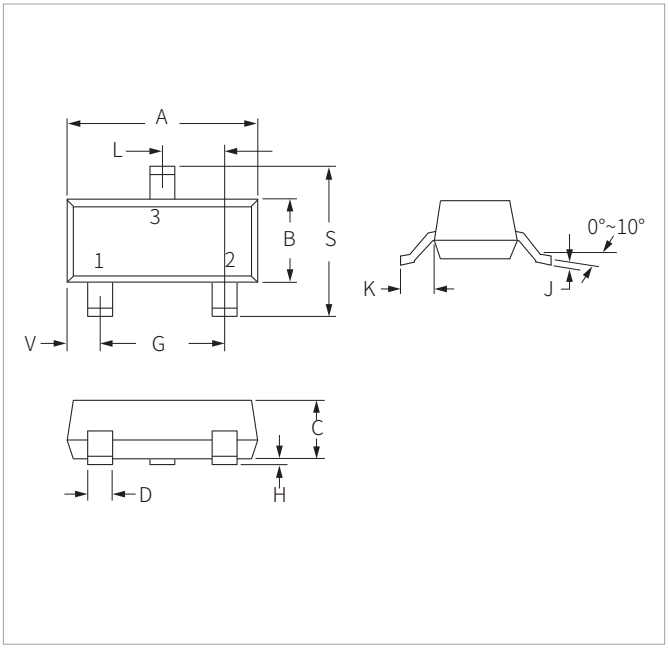


Figure 12: Gate Charge

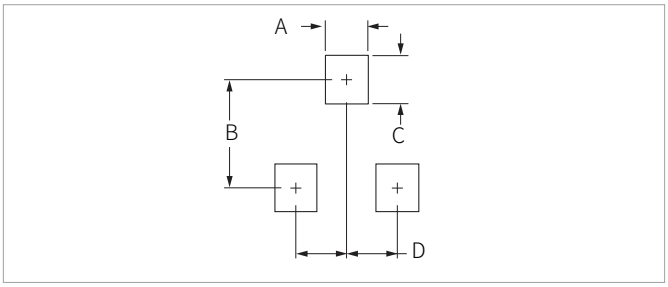


SOT-23-3L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.15	0.110	0.124
B	1.50	1.70	0.060	0.070
C	1.00	1.30	0.039	0.051
D	0.37	0.50	0.015	0.020
G	1.78	2.10	0.070	0.083
H	0.01	0.15	0.001	0.006
J	0.08	0.18	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.60	3.00	0.102	0.118
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.70	1.00	0.028	0.039
B	2.30	2.50	0.090	0.098
C	0.70	1.00	0.028	0.039
D	0.80	1.10	0.032	0.043

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM5N10A	SOT-23-3L	3000PCS	7”

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