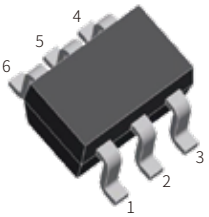
SNM2N7002KDW

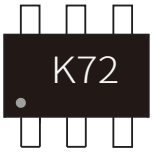
N-Channel Enhancement Mode MOSFET - ESD Protected

FEATURES

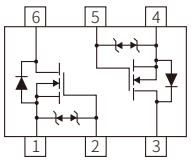
- $R_{DS(ON)}$, V_{GS}@10V,I_{DS}@500mA=3Ω
- $R_{DS(ON)}$, V_{GS}@4.5V,I_{DS}@200mA=4Ω
- Advanced Trench Process Technology
- High Density Cell Design For Ultra Low On-Resistance
- Very Low Leakage Current In Off Condition
- Specially Designed for Battery Operated Systems, Solid-State Relays Drivers : Relays, Displays, Lamps, Solenoids, Memories, etc
- ESD Protected 2KV HBM



SOT-363



Marking



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}	60	V
Continuous Drain Current		I_D	115	mA
Pulsed Drain Current [1]		I_{DM}	800	mA
Gate-source Voltage		V_{GSS}	±20	V
Total Power Dissipation [C]	T_A=25°C	P_D	200	mW
	T_A=75°C		120	
Junction-to-Ambient Thermal Resistance (PCB mounted) [2]		$R_{\theta JA}$	625	°C/W
Junction and Storage Temperature Range		T_J,T_{STG}	-55 to 150	°C

Note:1.Maximum DC current limited by the package
2.Surface mounted on FR4 board, t<10 sec
3.Pulse width<300us, Duty cycle<2%

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Parameter						
Drain-source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250μA	60			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	1		2.5	V
Drain Cut-Off Current	I_{DSS}	V_{DS}=60V,V_{GS}=0V			1	μA
Gate Leakage Current	I_{GSS}	V_{GS}=±20V ,V_{DS}=0V			±10	μA
Drain Source ON Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=500mA			3.0	Ω
		V_{GS}=4.5V,I_D=200mA			4.0	Ω
Dynamic Parameters						
Input capacitance	C_{iss}	V_{GS}=0V,V_{DS}=25V, f=1.0MHz			35	pF
Output capacitance	C_{oss}				10	pF
Reverse transfer capacitance	C_{rss}				5	pF
Switching Parameters						
Total Gate Charge	Q_g	V_{DS}=15V,V_{GS}=4.5V,I_D=200mA			0.8	nC
Turn-On D elay Ti me	t_{on}	V_{DD}=30V,R_L=150Ω,V_{GEN}=10V I_D=200mA,R_G=10Ω			20	ns
Turn-Off D elay Time	t_{off}				40	ns
Source-Drain Diode						
Diode Forward Voltage	V_{SD}	I_S=200mA,V_{GS}=0V		0.82	1.3	V
Continuous D iode Forward Current	I_S				115	mA
Pulsed Diode Forward Current	I_{SM}				800	mA

PARAMETER CHARACTERISTIC CURVE

Figure 1: Output Characteristics

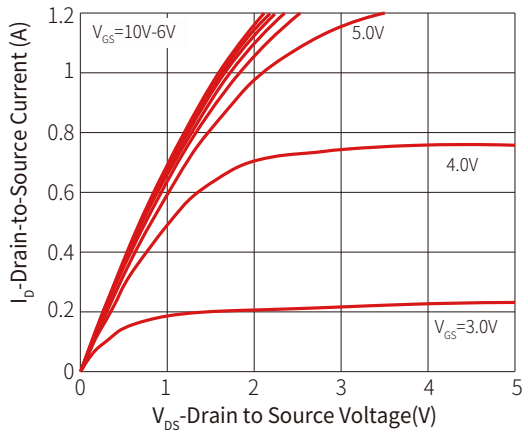


Figure 2: Transfer Characteristics

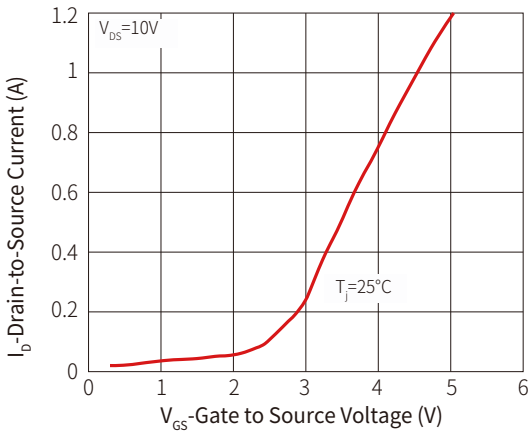


Figure 3:On-Resistance vs Drain Current

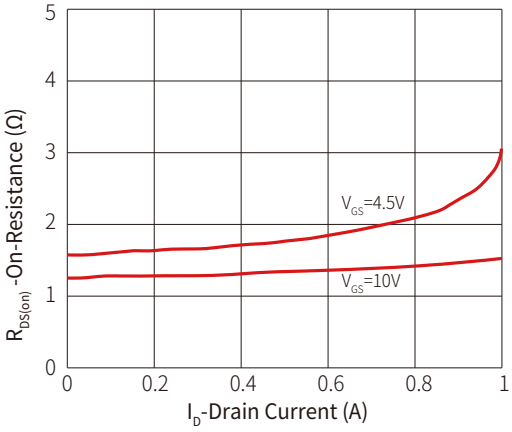


Figure 4:Resistance vs Gate to Source Voltage

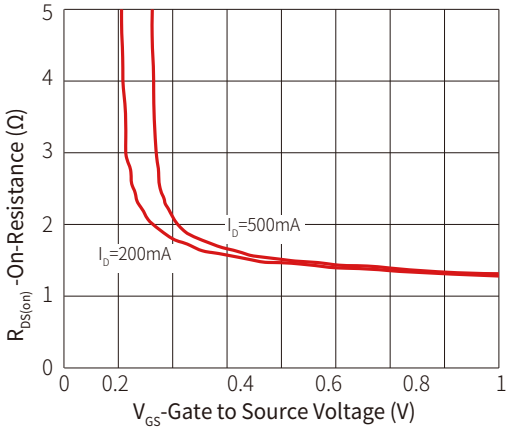


Figure 5:On-Resistance vs Junction Temperture

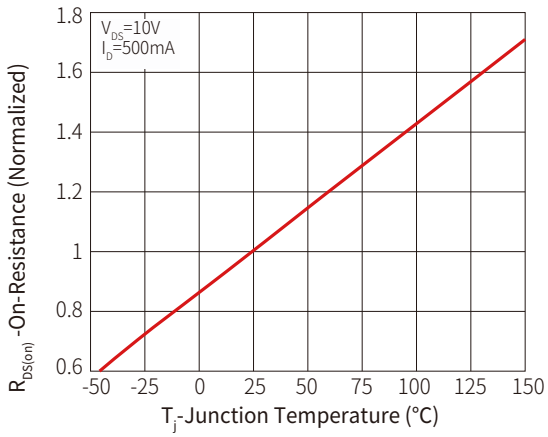


Figure 6:Gate Charge

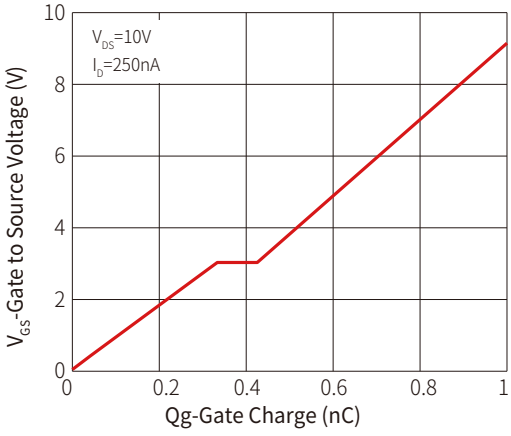


Figure 7: Threshold Voltage vs Temperature

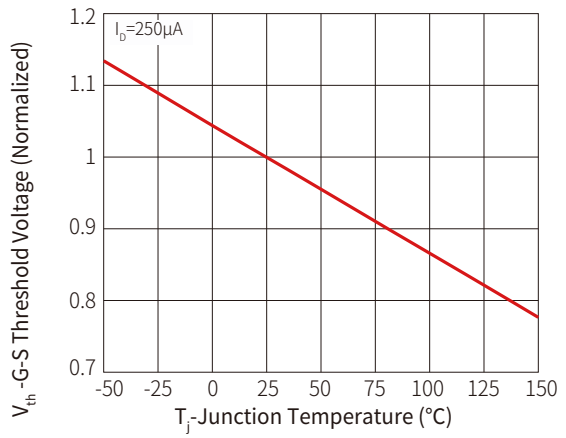


Figure 8: Breakdown Voltage vs Junction Temperature

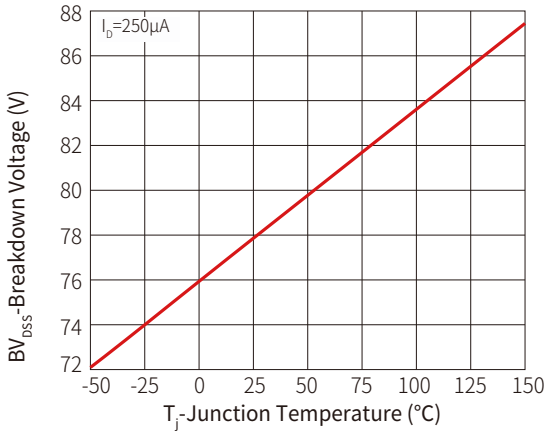
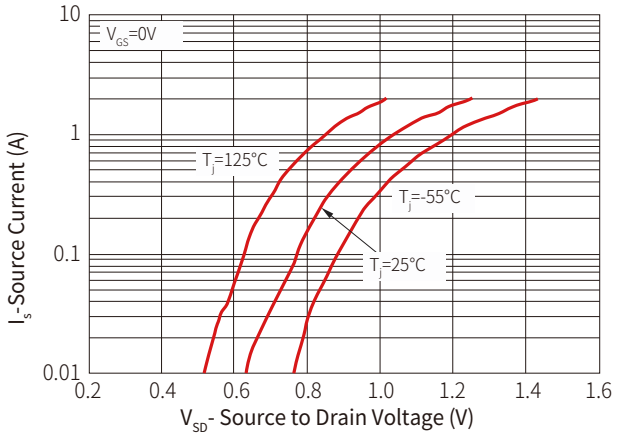
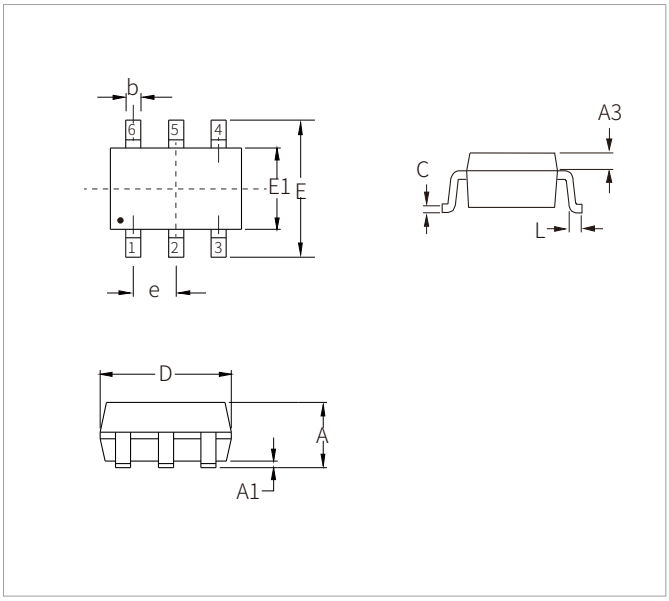


Figure 9: Source-Drain Diode Forward Voltage

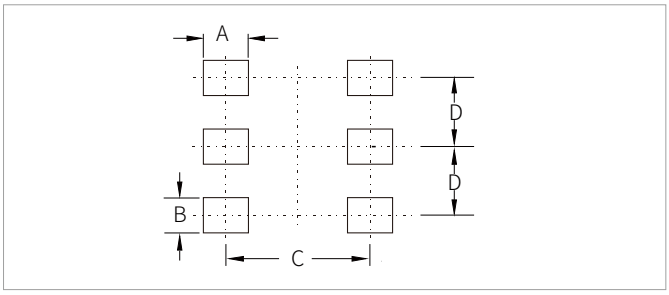


SOT-363 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
A1	0.00	0.10	0.000	0.004
A3	0.20REF		0.008REF	
D	1.80	2.20	0.070	0.086
E1	1.15	1.35	0.045	0.053
E	2.00	2.40	0.078	0.094
e	0.65BSC		0.026BSC	
b	0.10	0.40	0.004	0.016
L	0.10	0.50	0.004	0.020
C	0.10	0.25	0.004	0.010

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.50	0.0197
B	0.40	0.0157
C	1.90	0.0748
D	0.65	0.0250

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM2N7002KDW	SOT-363	3000PCS	7”

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