Elektronische Bauelemente

S2N72KDW-C

380mA, 60V

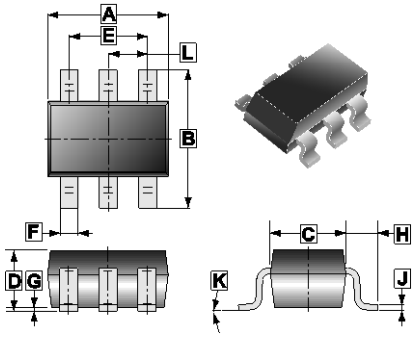
Dual N-Ch Enhancement Mode Power MOSFET

RoHS Compliant Product
A Suffix of "-C" specifies halogen & lead-free

FEATURES

- Low On-Resistance
- Fast Switching Speed
- Low Voltage Drive
- Easily Designed Drive Circuits
- ESD Protected: 2KV

SOT-363



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.10 REF.	
B	1.80	2.45	H	0.525 REF.	
C	1.15	1.35	J	0.05	0.25
D	0.70	1.10	K	8°	
E	1.30 REF.		L	0.65 TYP.	
F	0.10	0.35			

MARKING

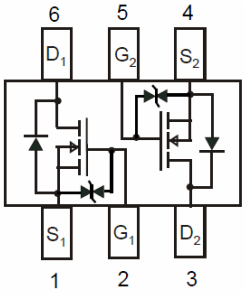
72K

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-363	3K	7 inch

ORDER INFORMATION

Part Number	Type
S2N72KDW-C	Lead (Pb)-free and Halogen-free



MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter		Symbol	Ratings		Unit
			Steady State	t<5s	
Drain-Source Voltage		V_{DSS}	60		V
Gate-Source Voltage		V_{GSS}	±20		V
Continuous Drain Current	T_A=25°C	I_D	320	380	mA
	T_A=85°C		230	270	
Pulsed Drain Current @tp=10μs		I_{DM}	1.5		A
Total Power Dissipation [1]		P_D	300	420	mW
Gate Source ESD Rating (HBM, Method 3015)		V_{ESD}	2000		V
Lead Temperature for Soldering Purposes (1/8" from case for 10s)		T_L	260		°C
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55~150		°C
Thermal Data					
Thermal Resistance from Junction-Ambient [1]		$R_{\theta JA}$	417	300	°C/W

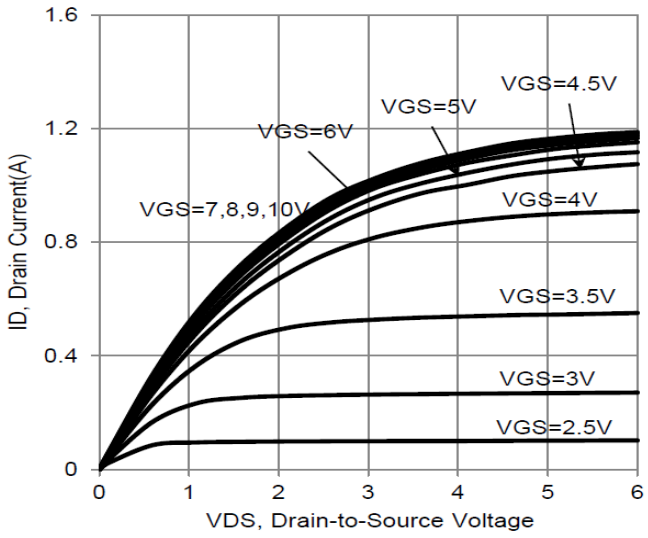
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	60	-	-	V	V_{GS}=0, I_D=250μA
Gate Threshold Voltage [2]		$V_{GS(th)}$	1	-	2.5	V	V_{DS}=V_{GS}, I_D=250μA
Forward Tranconductance [2]		g_{fs}	-	80	-	mS	V_{DS}=50V, I_D=200mA
Zero Gate Voltage Drain Current	T_J=25°C	I_{DSS}	-	-	1	μA	V_{DS}=60V, V_{GS}=0
	T_J=125°C		-	-	500		
	T_J=25°C		-	-	100	nA	V_{DS}=50V, V_{GS}=0
Gate-Source Leakage		I_{GSS}	-	-	±10	μA	V_{DS}=0, V_{GS}= ±20V
Static Drain-Source On-Resistance [2]		$R_{DS(ON)}$	-	-	2.3	Ω	V_{GS}=10V, I_D=500mA
			-	-	2.7		V_{GS}=5V, I_D=50mA
Turn-On Delay Time		$T_{d(on)}$	-	3.8	-	nS	I_D=500mA V_{DS}=10V V_{GS}=10V
Rise Time		T_r	-	3.4	-		
Turn-Off Delay Time		$T_{d(off)}$	-	19	-		
Fall Time		T_f	-	12	-		
Input Capacitance		C_{iss}	-	34	-	pF	V_{DS}=25V V_{GS}=0 f=1MHz
Output Capacitance		C_{oss}	-	3	-		
Reverse Transfer Capacitance		C_{rss}	-	2.2	-		
Source-Drain Diode							
Forward on Voltage [2]	T_J=25°C	V_{SD}	-	-	1.4	V	V_{GS}=0, I_S=115mA
	T_J=85°C		-	0.7	-		
Continuous Source Current		I_S			300	mA	

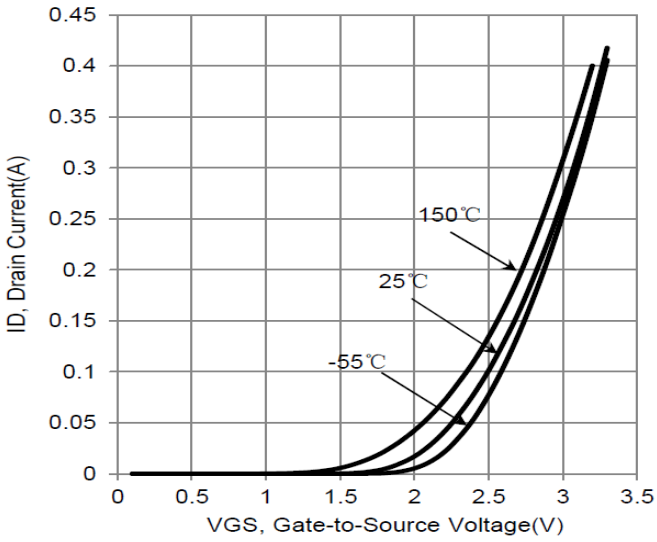
Notes:
1. FR–5=1 × 0.75 × 0.062 in.
2. Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%.

CHARACTERISTIC CURVES

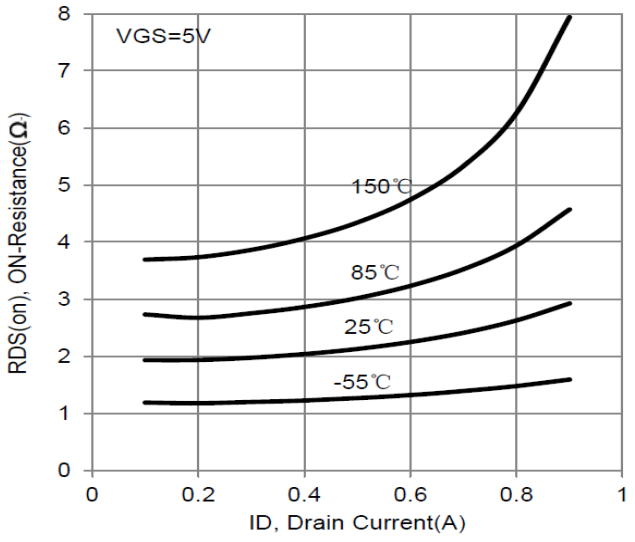
On-Region Characteristics



Transfer Characteristics



RDS(on) vs. ID



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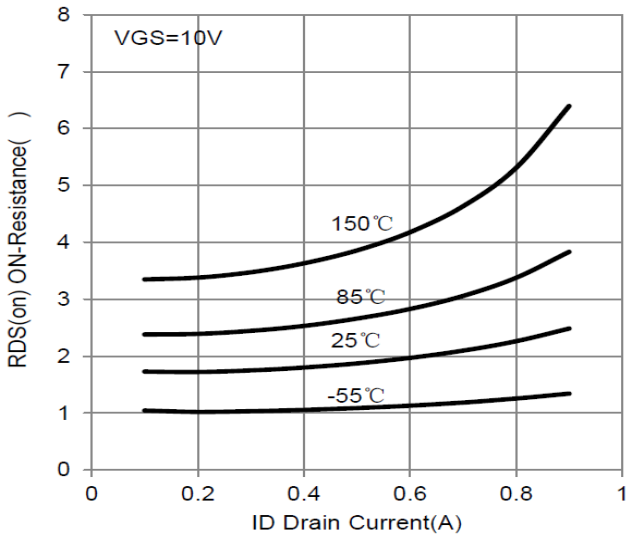
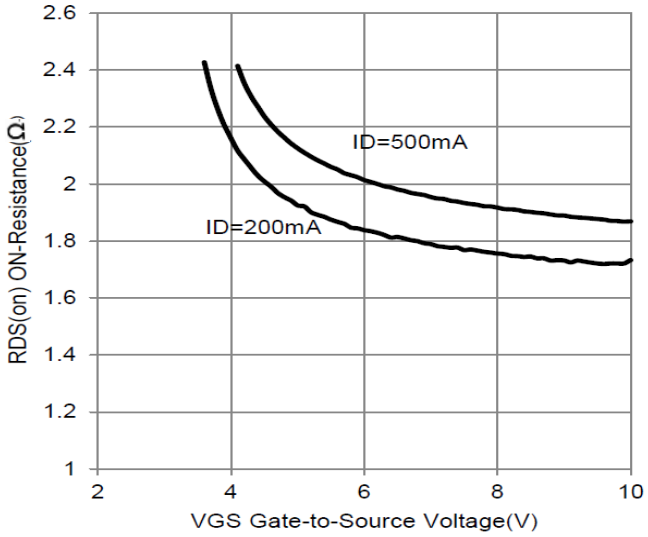
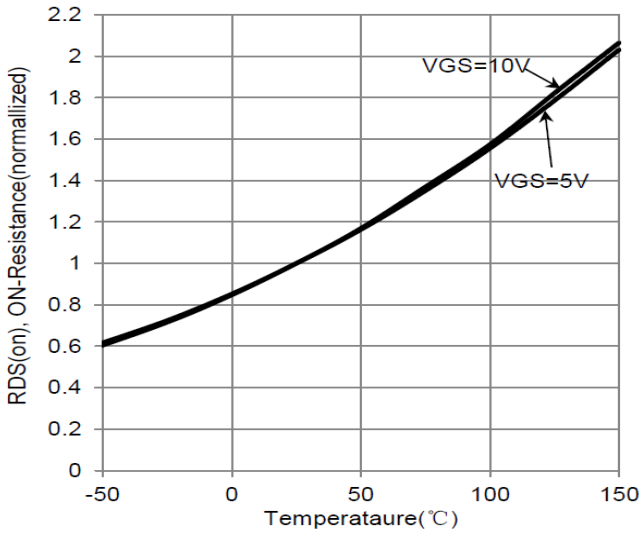


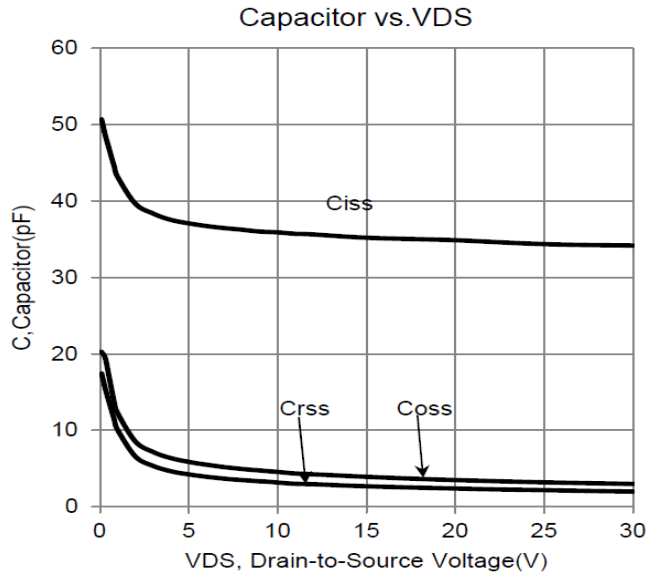
RDS(on) vs. VGS

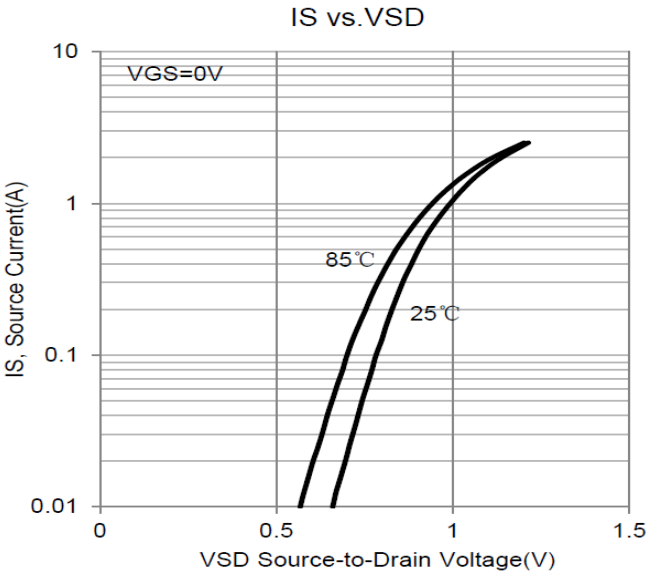


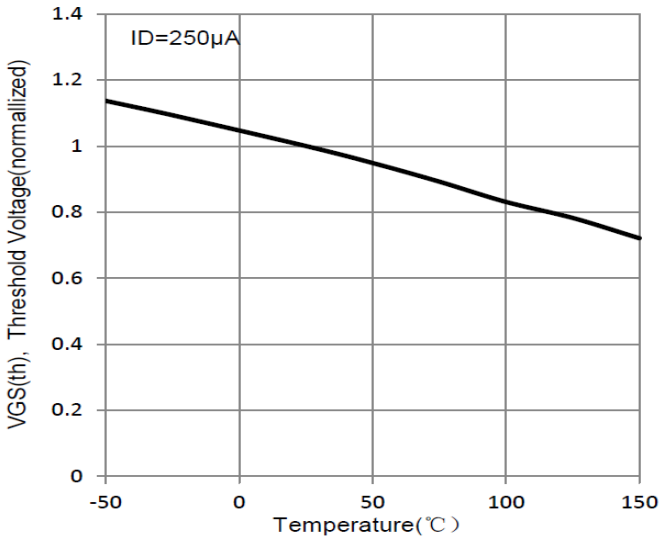
RDS(on) vs. Temperature



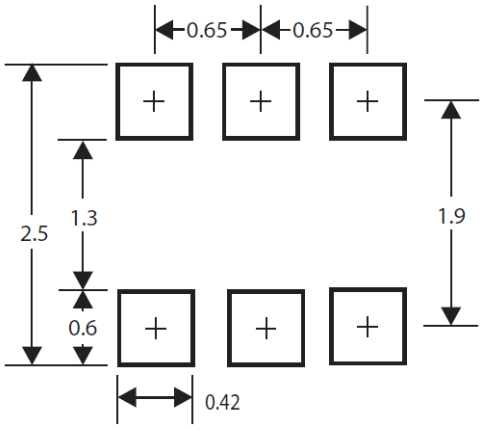
CHARACTERISTIC CURVES







Mounting Pad Layout



*Dimensions in millimeters