Elektronische Bauelemente

SDN2007-C

8A, 20V, $R_{DS(ON)}$ 15mΩ

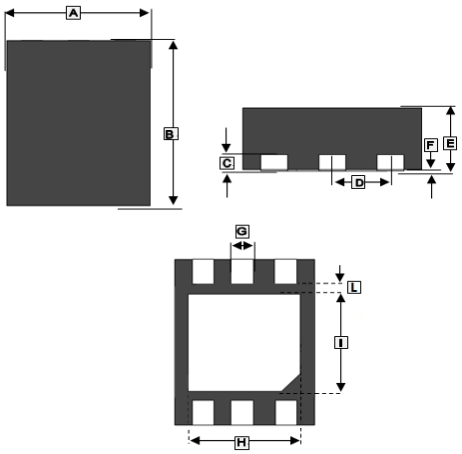
Dual-N Channel Enhancement Mode Power MOSFET

RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

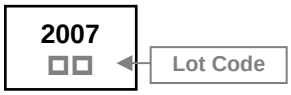
The SDN2007-C uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It is ESD protected. This device is suitable for use as a Uni-directional or Bi-directional load switch, facilitated by its common-drain configuration.

DFN2x3-6J



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.95	2.05	F	0	0.05
B	2.95	3.05	G	0.2	0.3
C	0.203 REF.		H	1.45	1.55
D	0.5 BSC.		I	1.65	1.75
E	0.7	0.8	L	0.2	-

MARKING

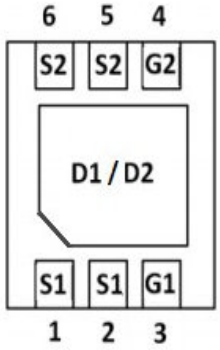


PACKAGE INFORMATION

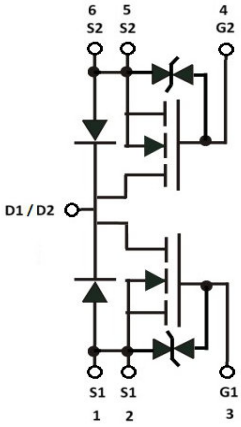
Package	MPQ	Leader Size
DFN2×3-6J	3K	7 inch

ORDER INFORMATION

Part Number	Type
SDN2007-C	Lead (Pb)-free and Halogen-free



Top View



Equivalent Circuit

ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

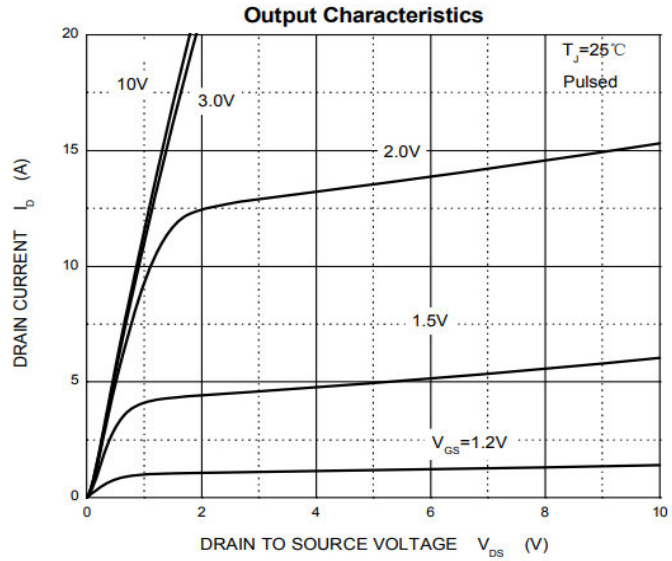
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current		I_D	8	A
Pulsed Drain Current [1]		I_{DM}	45	A
Power Dissipation	T_A=25℃	P_D	1.5	W
Lead Temperature for Soldering Purposes @1/8'' from case for 10s		T_L	260	℃
Operating Junction and Storage Temperature Range		T_J, T_{STG}	150, -55~150	℃
Thermal Resistance Rating				
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	83.3	℃ / W

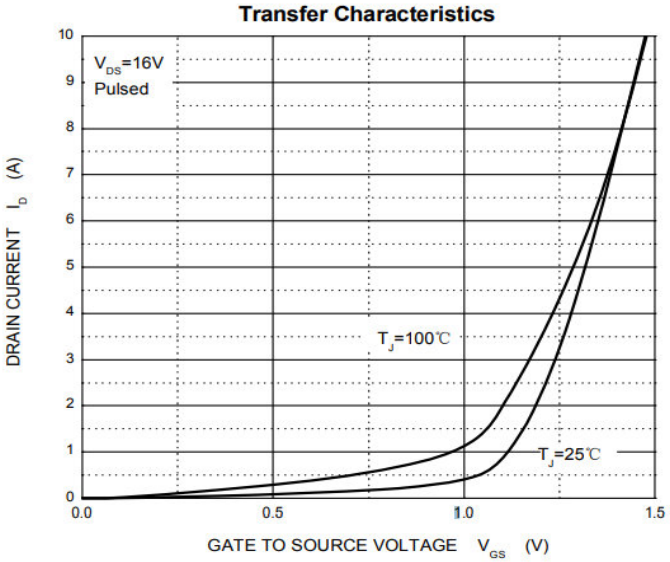
ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

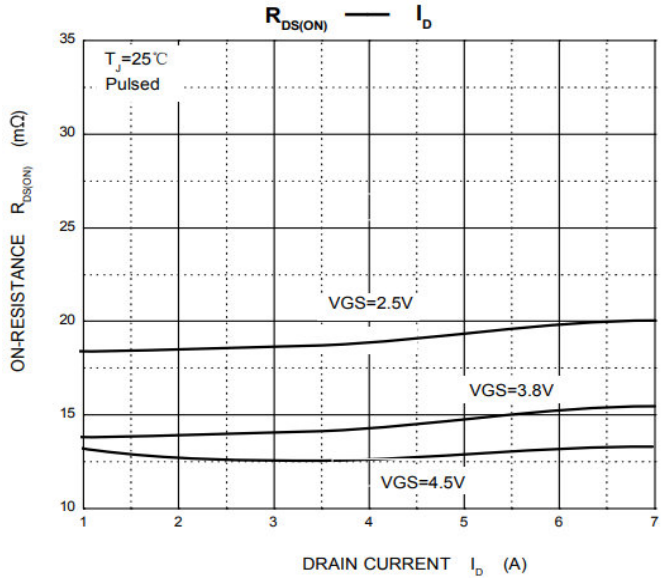
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Drain-source breakdown voltage	$V_{(BR)DSS}$	20	-	-	V	V_{GS}=0V, I_D=250μA
Gate-Threshold Voltage [1]	$V_{GS(th)}$	0.4	-	1	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage Current	I_{GSS}	-	-	±1	μA	V_{DS}=0V, V_{GS}= ±4.5V
		-	-	±10		V_{DS}=0V, V_{GS}= ±8V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}=16V, V_{GS}=0V
Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	12.5	15	mΩ	V_{GS}=4.5V, I_D=3A
		-	13	16		V_{GS}=4V, I_D=3A
		-	13.5	16.5		V_{GS}=3.8V, I_D=3A
		-	14.5	18		V_{GS}=3.1V, I_D=3A
		-	17	23		V_{GS}=2.5V, I_D=3A
Forward Transconductance [1]	g_{fs}	-	9	-	S	V_{DS}=5V, I_D=7A
Total Gate Charge	Q_g	-	15	-	nC	V_{DS}=10V V_{GS}=4.5V I_D=7A
Gate-Source Charge	Q_{gs}	-	0.8	-		
Gate-Drain Charge	Q_{gd}	-	3.2	-		
Turn-On Delay Time	$T_{d(ON)}$	-	6	-	nS	V_{DD}=10V V_{GS}=5V R_L=1.35Ω R_G=3Ω
Rise Time	T_r	-	13	-		
Turn-Off Delay Time	$T_{d(OFF)}$	-	52	-		
Fall Time	T_f	-	16	-		
Input Capacitance	C_{iss}	-	1150		pF	V_{DS}=10V V_{GS}=0V f=1MHz
Output Capacitance	C_{oss}	-	185			
Reverse Transfer Capacitance	C_{rss}	-	145			
Source-Drain Diode						
Diode Forward Current	I_S	-	-	6	A	
Diode Forward Voltage [1]	V_{SD}	-	-	1	V	I_S=1A, V_{GS}=0V

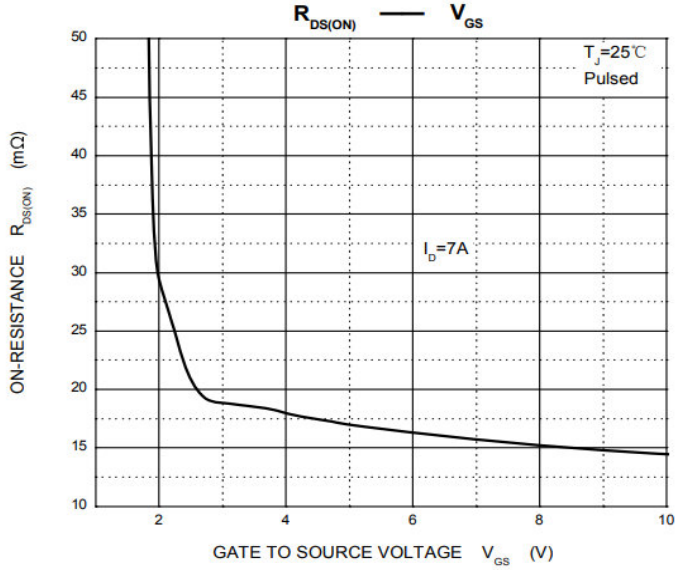
Note:
1. Pulse test: Pulse width≦300μs, duty cycle≦2%.

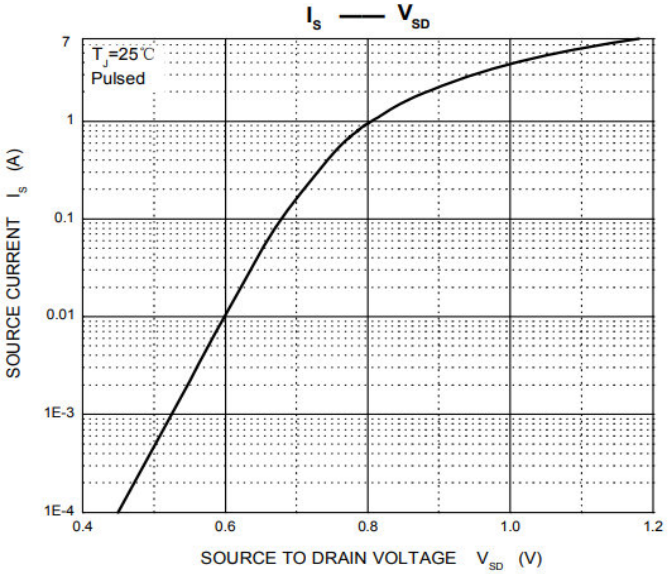
CHARACTERISTIC CURVE

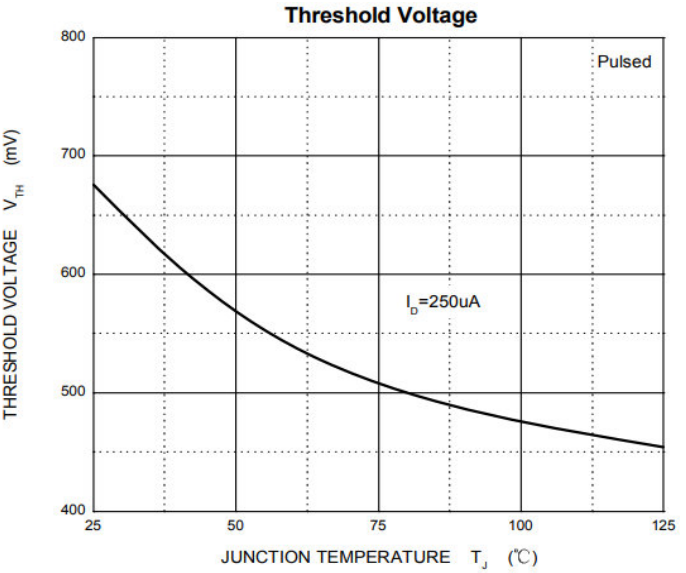












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