Elektronische Bauelemente

SDT1216

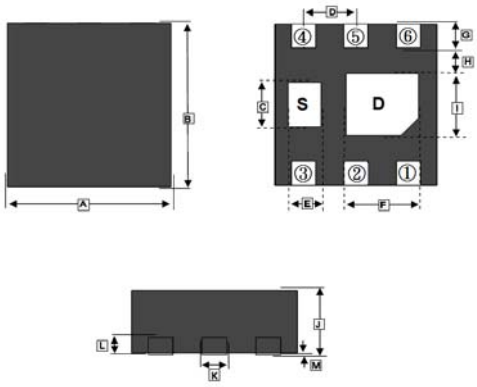
-16A , -12V , $R_{DS(ON)}$ 21 mΩ
P-Channel Enhancement Mode Power MOSFET

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

DESCRIPTION

The SDT1216 provide the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness. The DFN2*2-6J package is universally preferred for all commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

DFN2*2-6J



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.924	2.076	H	0.20	-
B	1.924	2.076	I	0.85	1.05
C	0.46	0.66	J	0.70	0.90
D	0.65 TYP.		K	0.20	0.40
E	0.20	0.40	L	0.203REF	
F	0.80	1.00	M	0.00	0.05
G	0.174	0.326			

FEATURES

- Lower Gate Charge
- Simple Drive Requirement
- Fast Switching Characteristic

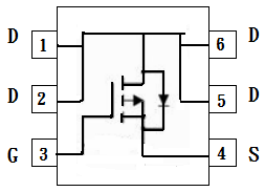
MARKING

1216

PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN2*2-6L	3K	7 inch

Top View



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	±8	V
Continuous Drain Current (t≤10s)	I_D	-16	A
Pulsed Drain Current [1]	I_{DM}	-65	A
Power Dissipation@ T_A = 25°C [2]	P_D	2.5	W
Maximum Power Dissipation @T_C= 25°C [3]		18	
Thermal Resistance Junction-Ambient [4]	$R_{\theta JA}$	50	°C / W
Thermal Resistance from Junction to Case [4]	$R_{\theta JC}$	6.9	°C / W
Operating Junction & Storage Temperature	T_J, T_{STG}	150, -55~150	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	-12	-	-	V	V_{GS}=0, I_D= -250μA
Gate-Source Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}= ±8V, V_{DS}=0
Drain-Source Leakage Current	I_{DSS}	-	-	-1	μA	V_{DS}= -12V, V_{GS}=0
Gate-Threshold Voltage [5]	$V_{GS(th)}$	-0.4	-0.7	-1	V	V_{DS}=V_{GS}, I_D= -250μA
Forward Transconductance [5]	g_{fs}	-	40	-	S	V_{DS}= -10V, I_D= -6.7A
Static Drain-Source On-Resistance [5]	$R_{DS(ON)}$	-	-	21	mΩ	V_{DS}= -4.5V, I_D=-6.7A
		-	-	27		V_{GS}= -2.5V, I_D= -6.2A
Switching Parameters [6]						
Total Gate Charge	Q_g	-	60	-	nC	I_D= -10A V_{DS}= -6V V_{GS}= -8V
		-	35	-		I_D= -10A V_{DS}= -6V V_{GS}= -4.5V
Gate-Source Charge	Q_{gs}	-	5	-		
Gate-Drain Change	Q_{gd}	-	10	-		
Input Capacitance	C_{iss}	-	2700	-	pF	V_{GS} =0 V_{DS}= -10V f =1.0MHz
Output Capacitance	C_{oss}	-	680	-		
Reverse Transfer Capacitance	C_{rss}	-	590	-		
Drain-Source Diode Characteristics						
Diode Forward Current [5]	I_S	-	-	-16	A	
Diode Forward Voltage [4]	V_{SD}	-	-	-1.2	V	I_S= -8A, V_{GS}=0

Note:
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at Ta=25℃.
3. This test is performed with infinite heat sink at Tc=25℃.
4. Surface mounted on FR4 board, t≤10S.
5. Pulse Test: Pulse With ≤300μs,Duty Cycle≤2%.
6. Guaranteed by design, not subject to production testing.

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CHARACTERISTIC CURVES