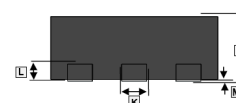
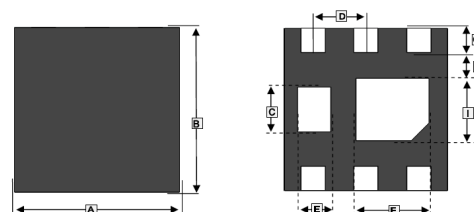


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

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



FEATURES

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

MARKING

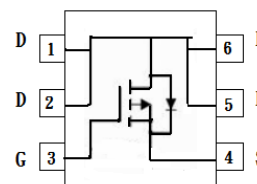
1216

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			

PACKAGE INFORMATION

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

Top View



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise specified)

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

Note:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at $T_a=25^\circ\text{C}$.
3. This test is performed with infinite heat sink at $T_c=25^\circ\text{C}$.
4. Surface mounted on FR4 board, $t \leq 10\text{S}$.
5. Pulse Test: Pulse With $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.
6. Guaranteed by design, not subject to production testing.

CHARACTERISTIC CURVES

