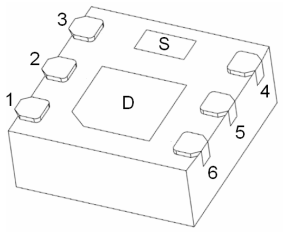
DFNWB2*2-6L-J Plastic-Encapsulate MOSFETS

CJM1216 P-Channel Power MOSFET

DFNWB2*2-6L-J

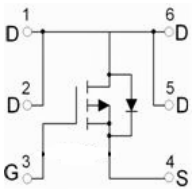


1. DRAIN
2. DRAIN
3. GATE
4. SOURCE
5. DRAIN
6. DRAIN

DESCRIPTION

The CJM1216 uses advanced trench technology to provide excellent $R_{DS(on)}$, low gate charge and operation with low gate voltage.

This device is suitable for use as a load switching application and a wide variety of other applications.



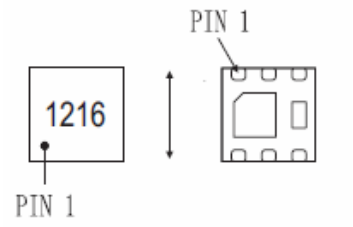
FEATURES

- Advanced trench MOSFET process technology
- Ultra low on-resistance with low gate charge

APPLICATIONS

- PWM application
- Load switch
- Battery charge in cellular handset

MARKING: 1216



Maximum ratings (T_a=25℃ unless otherwise noted)

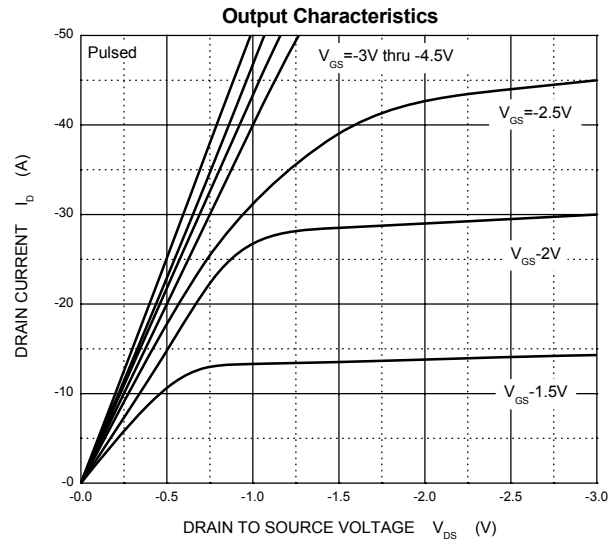
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-12	V
Gate-Source Voltage	V_{GS}	±8	
Drain Current-Continuous	I_D	-16	A
Drain Current-Pulsed (note 1)	I_{DM}	-65	
Power Dissipation (note 2 , T_a=25℃)	P_D	2.5	W
Maximum Power Dissipation (note 3 , T_c=25℃)		18	
Thermal Resistance from Junction to Ambient (note 4)	$R_{\theta JA}$	50	℃/W
Thermal Resistance from Junction to Case (note 4)	$R_{\theta JC}$	6.9	
Junction Temperature	T_j	150	℃
Storage Temperature	T_{STG}	-55 ~+150	

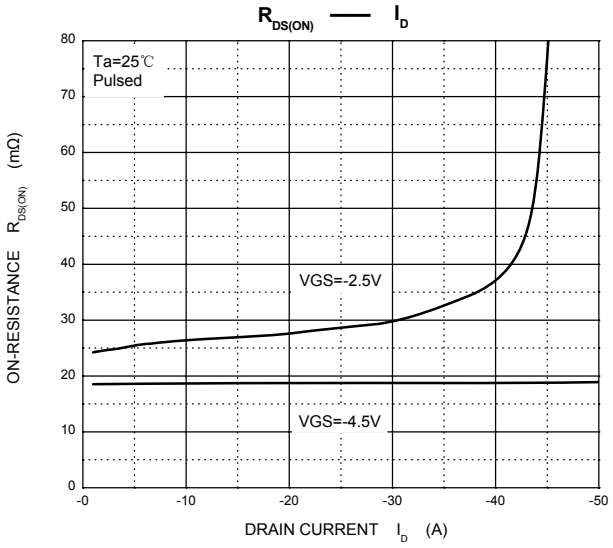
Electrical characteristics (T_a=25℃ unless otherwise noted)

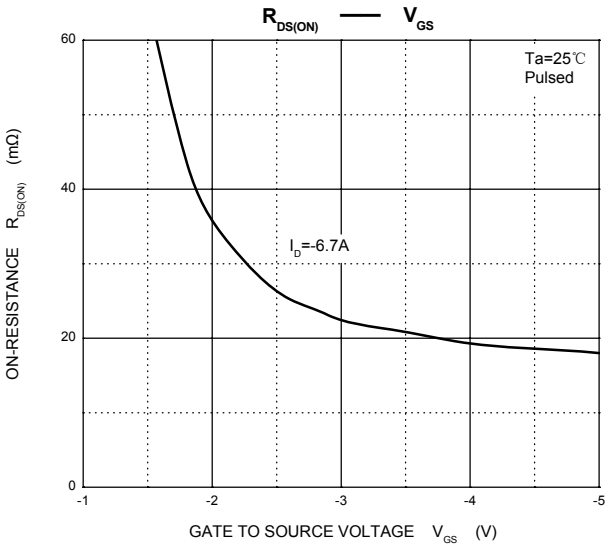
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-12			V
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V, V_{GS} =±8V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-12V, V_{GS} =0V			-1	μA
On Characteristics (note 5)						
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4	-0.7	-1	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-6.7A			21	mΩ
		V_{GS} =-2.5V, I_D =-6.2A			27	
Forward Transconductance	g_{FS}	V_{DS} =-10V, I_D =-6.7A		40		S
Dynamic Characteristics (note 6)						
Input Capacitance	C_{iss}	V_{DS} =-10V,V_{GS} =0V,f =1MHz		2700		pF
Output Capacitance	C_{oss}			680		
Reverse Transfer Capacitance	C_{rss}			590		
Total Gate Charge	Q_g	V_{DS} =-6V,V_{GS} =-8V,I_D =-10A		60	100	nC
		V_{DS} =-6V,V_{GS} =-4.5V,I_D =-10A		35	48	
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			10		
Drain-Source Diode Characteristics						
Diode Forward Current (note 5)	I_S				-16	A
Diode Forward Voltage(note 4)	V_{SD}	V_{GS} =0V, I_{SD}=-8A			-1.2	V

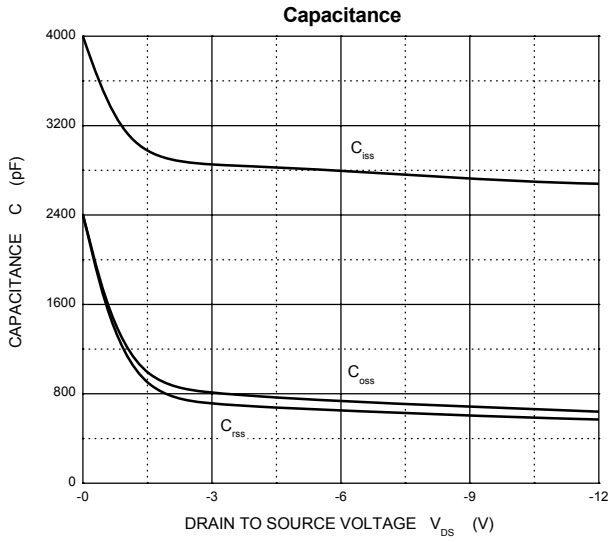
Notes:

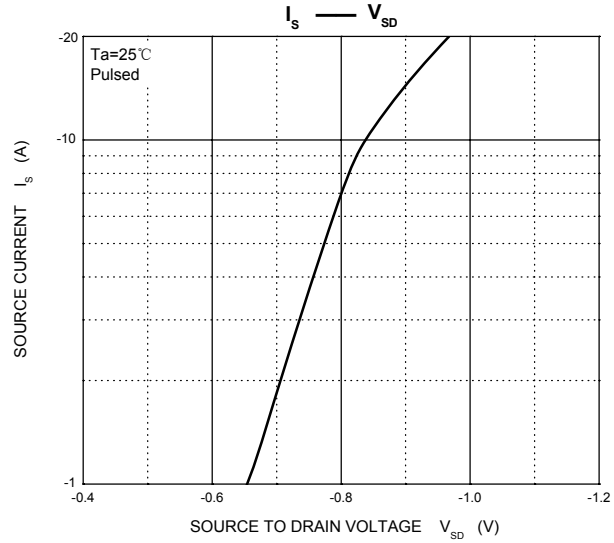
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25℃.
3. This test is performed with infinite heat sink at T_c=25℃.
4. Surface mounted on FR4 board, t≤10S.
5. Pulse Test: Pulse With ≤300μs,Duty Cycle≤2%.
6. Guaranteed by design,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

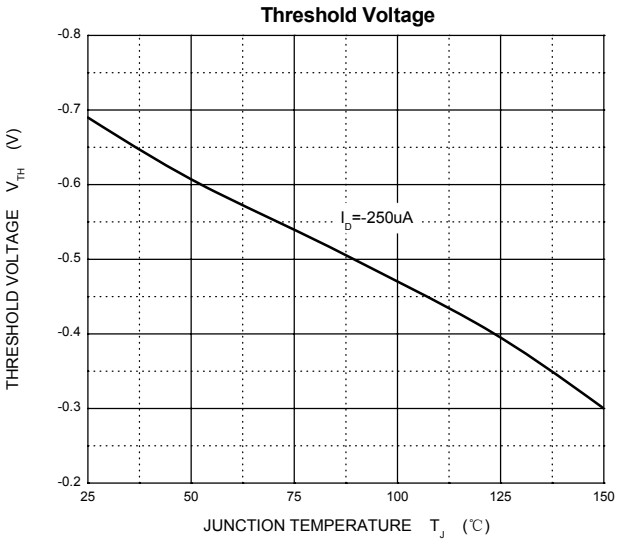

Output Characteristics
Pulsed
VGS=-3V thru -4.5V
VGS=-2.5V
VGS-2V
VGS-1.5V
DRAIN CURRENT ID (A)
DRAIN TO SOURCE VOLTAGE VDS (V)


RDS(ON) — ID
Ta=25℃
Pulsed
VGS=-2.5V
VGS=-4.5V
ON-RESISTANCE RDS(ON) (mΩ)
DRAIN CURRENT ID (A)


RDS(ON) — VGS
Ta=25℃
Pulsed
ID=-6.7A
ON-RESISTANCE RDS(ON) (mΩ)
GATE TO SOURCE VOLTAGE VGS (V)


Capacitance
Ciss
Coss
Crss
CAPACITANCE C (pF)
DRAIN TO SOURCE VOLTAGE VDS (V)


IS — VSD
Ta=25℃
Pulsed
SOURCE CURRENT IS (A)
SOURCE TO DRAIN VOLTAGE VSD (V)


Threshold Voltage
ID=-250uA
THRESHOLD VOLTAGE VTH (V)
JUNCTION TEMPERATURE TJ (℃)