

General Description

The MY1216 uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

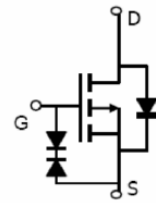
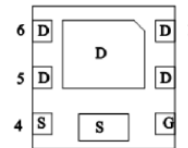
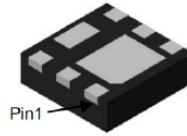


: YUhi fYg

V_{DSS}	-20	V
I_D	-16	A
$R_{DS(ON)}$ (at $V_{GS} = 10V$)	15.5	$m\Omega$
$R_{DS(ON)}$ (at $V_{GS} = 4.5V$)	22	$m\Omega$

Application

- Battery protection
- 5V regulator
- Uninterruptible power supply



Schematic diagram

DUW U[Y A Uf_]b[UbX CfXYf]b[-bZfa U]cb

DfcXi Wi-8	DUW	A Uf_]b[E hmfD7 GŁ
MY1216	PDFN2*2-6	MY1216	3€€€

5 Vgc`i hY`A U] ja i a `F U]b[g`fH5 1&) °C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	-16	A
Pulsed Drain Current	I_{DM}	-50	A
Maximum Power Dissipation	P_D	1.2	W
Derating factor	$R_{\theta JC}$	0.48	W/°C
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	°C
Thermal Resistance, Junction-to-Case ^(Note 2)	$R_{\theta JC}$	100	°C/W

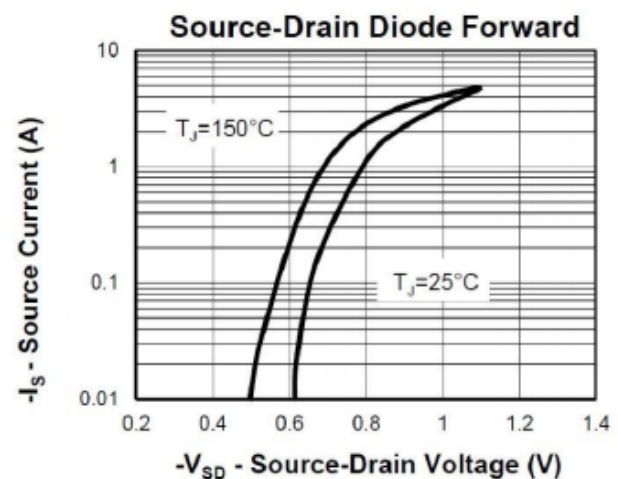
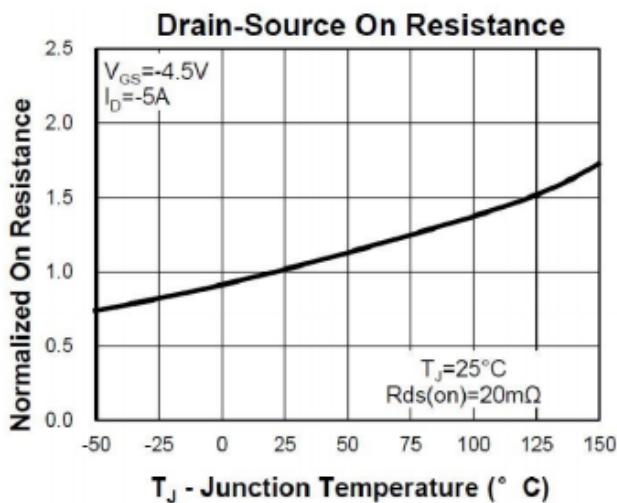
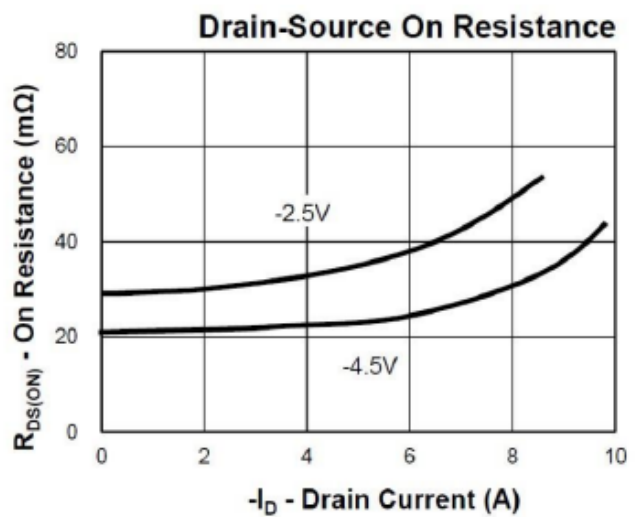
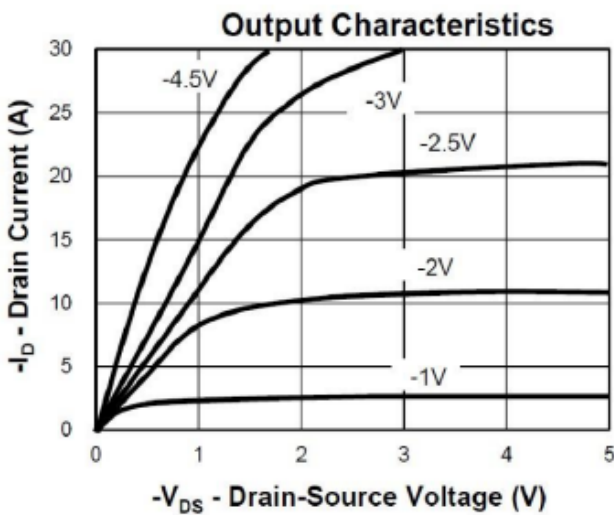
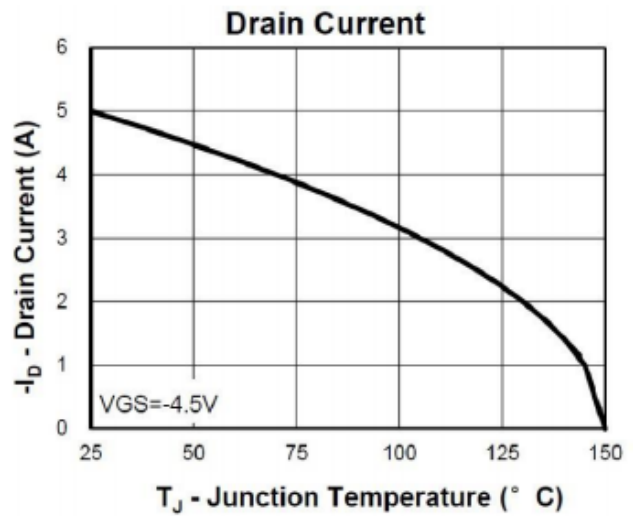
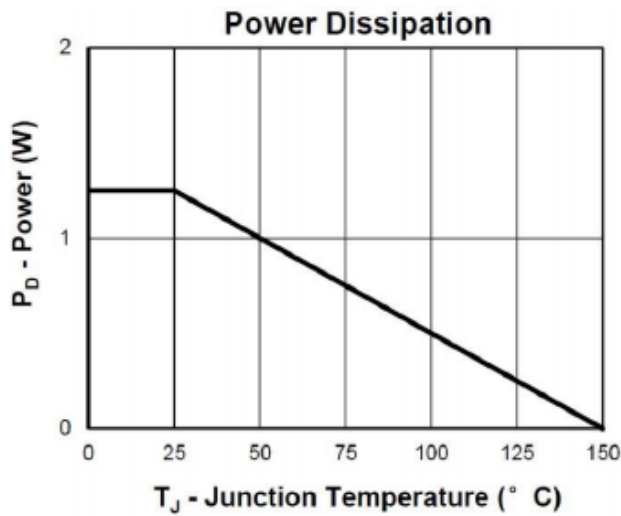
Electrical Characteristics ($T_c=25\text{ }^\circ\text{C}$, unless otherwise noted)

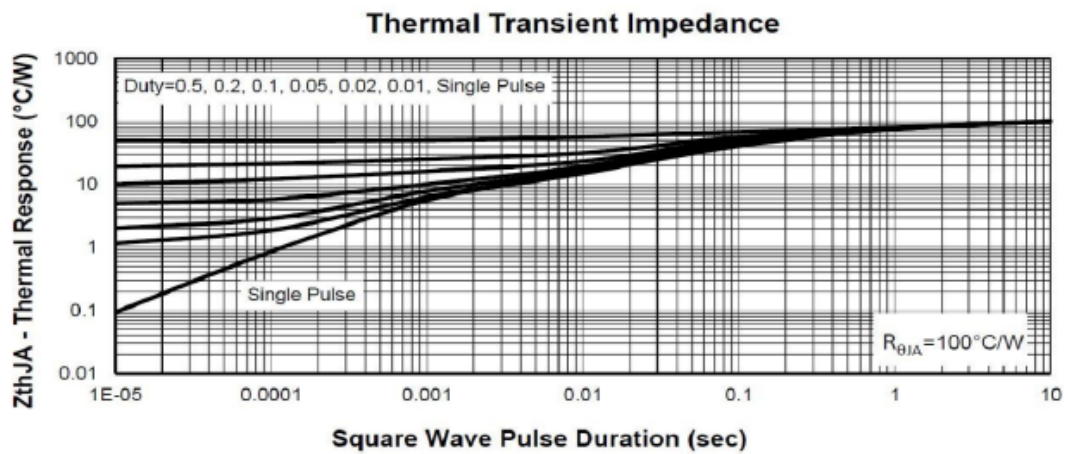
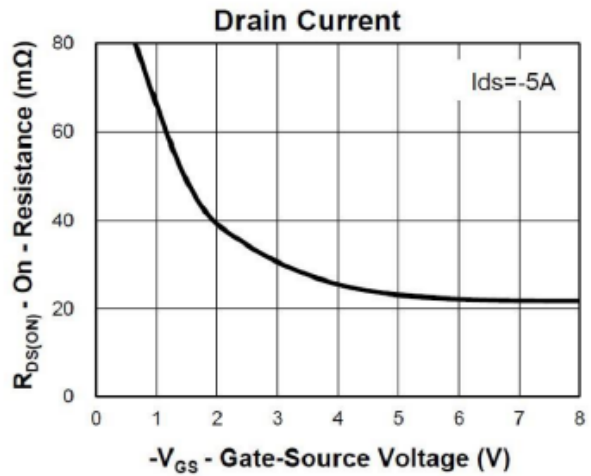
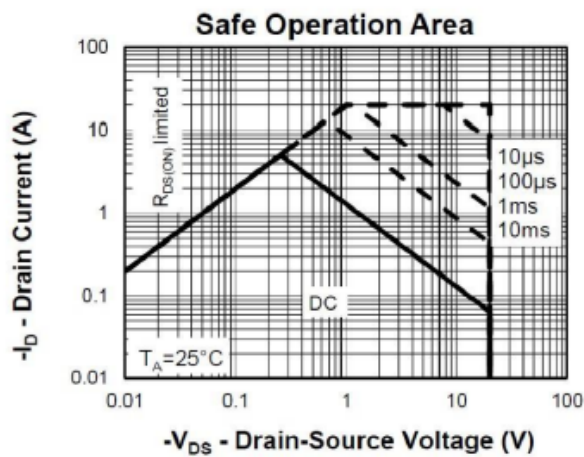
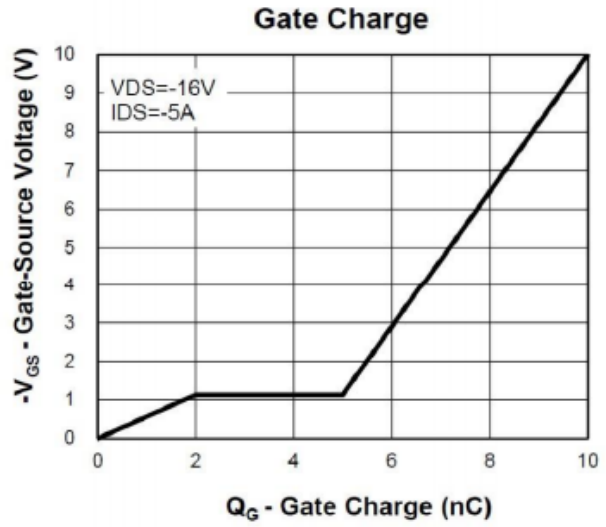
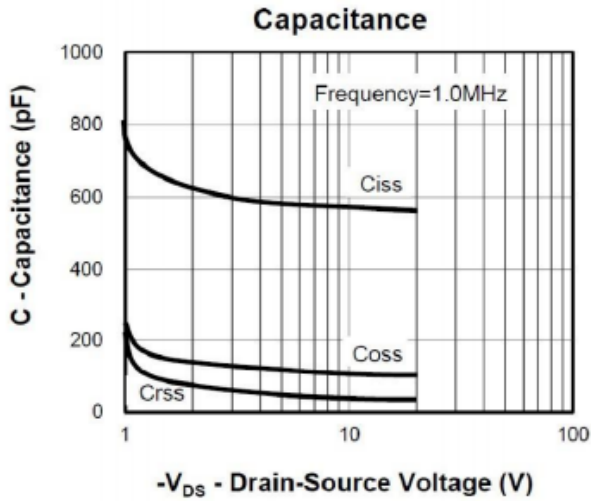
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-source breakdown voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-20	-	-	V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$	-	-	-1	μA
Gate-body leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 10V$	-	-	-100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.7	-1.0	V
Drain-source on-state resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-15A$	-	15.5	21	m Ω
		$V_{GS}=-2.5V, I_D=-10A$	-	22	30	
Forward transconductance	g_{fs}	$V_{GS}=-5V, I_D=-6A$	-	5	-	S
Input capacitance	C_{ISS}	$V_{DS}=-10V, V_{GS}=0V$ $f=1.0MHz$	-	2100	-	pF
Output capacitance	C_{OSS}		-	498	-	
Reverse transfer capacitance	C_{RSS}		-	300	-	
Turn-on delay time	$t_{D(ON)}$	$V_{DD}=-10V$ $I_D=-2.8A$ $V_{GEN}=-4.5V$ $R_L=10ohm$ $R_{GEN}=-6ohm$	-	25	-	ns
Rise time	t_r		-	30	-	
Turn-off delay time	$t_{D(OFF)}$		-	70	-	
Fall time	t_f		-	50	-	
Total gate charge	Q_g	$V_{DS}=-10V, I_D=-6A, V_{GS}=-4.5V$	-	17	-	nC
Gate-source charge	Q_{gs}		-	4.1	-	
Gate-drain charge	Q_{gd}		-	4.3	-	
Diode forward voltage	V_{SD}	$V_{GS}=0V, I_s=-1.25A$	-	-0.81	-1.2	V

Notes:

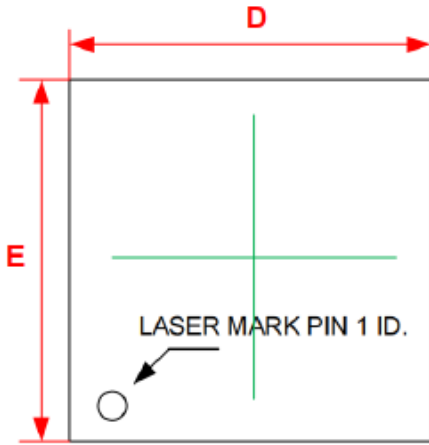
- surface mounted on FR4 board, $t \leq 10sec$
- pulse test: pulse width $\leq 300\mu s$, duty $\leq 2\%$
- guaranteed by design, not subject to production testing

Typical Characteristics

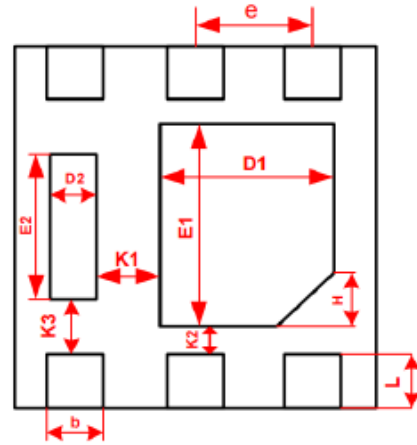




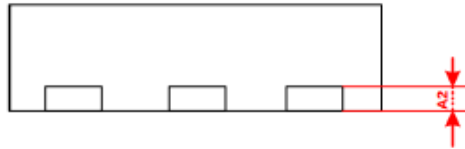
Package Mechanical Data-DFN2*2-6L-8JQ Single



TOP VIEW



BOTTOM VIEW



SIDE VIEW



SIDE VIEW

Common Dimension (mm)			
PKG	DFN2020-6L-B		
SYMBOL	MIN.	MON.	MAX.
A	0.413	0.452	0.493
A2	0.127REF		
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D1	0.85	0.95	1.05
E1	1.05	1.15	1.25
D2	0.20	0.25	0.30
E2	0.69	0.79	0.89
e	0.55	0.65	0.75
H	0.25	0.30	0.35
K1	0.25MIN		
K2	0.15MIN		
K3	0.20MIN		
L	0.20	0.25	0.30