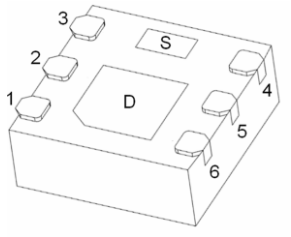
GPMP2011

20V P-Channel MOSFET

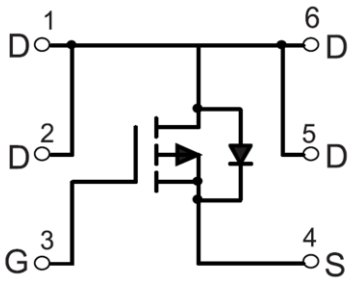
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	17mΩ@-4.5V	-11A
	27mΩ@-2.5V	

DFNWB2×2-6L-J



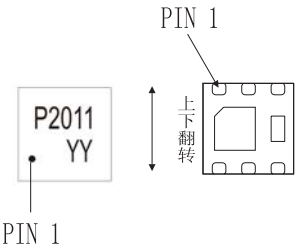
Schematic diagram



DESCRIPTION

The GPMP2011 uses advanced trench technology to provideexcellent $R_{DS(on)}$, low gate charge and operation with low gate voltage.This device is suitable for use as a load switching applicationand a wide variety of other applications.

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-11	A
Plused Drain Current(1)	I_{DM}	-44	A
Power Dissipation(2)	P_D	0.75	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	167	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

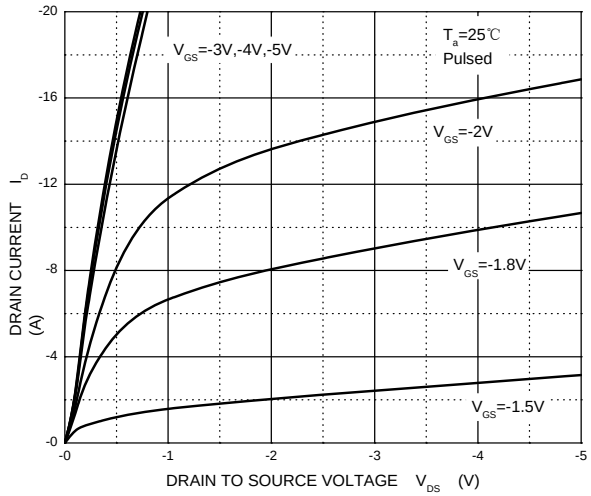
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-20V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
On Characteristics(3)						
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.45	-0.6	-1.0	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-7.2A		17	22	mΩ
		V_{GS} =-2.5V, I_D =-6.4A		27	40	
Forward tranconductance	g_{FS}	V_{DS} =-10V, I_D =-7.2A		16		S
Dynamic characteristics(4)						
Input Capacitance	C_{iss}	V_{DS} =-15V,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} =-4.5V,I_D =-10A		35		nC
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			10		
SWITCHING CHARACTERISTICS(4)						
Turn-on delay time	$t_{d(on)}$	V_{GEN}=-4.5V,V_{DD}=-10V, I_D=-1A,R_g=10Ω		11		ns
Turn-on rise time	t_r			35		
Turn-off delay time	$t_{d(off)}$			30		
Turn-off fall time	t_f			10		
Drain-Source Diode Characteristics						
Diode Forward Current	I_S				-11	A
Diode Forward Voltage(3)	V_{SD}	V_{GS} =0V, I_{SD}=-1.9A			-1.2	V

Notes:

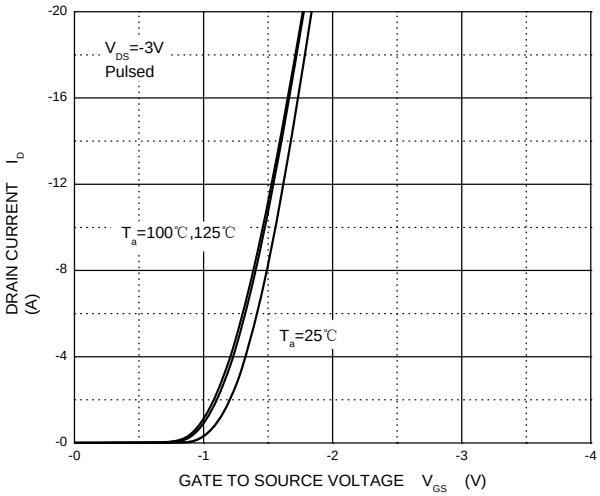
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at Ta=25℃.
3. Pulse Test: Pulse With ≤300μs,Duty Cycle≤2%.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

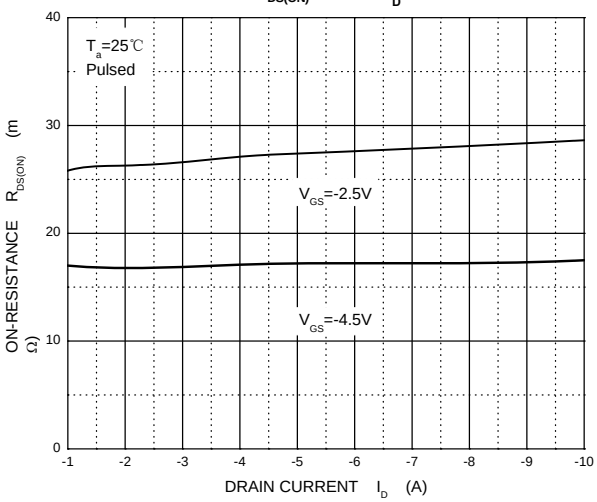
Output Characteristic



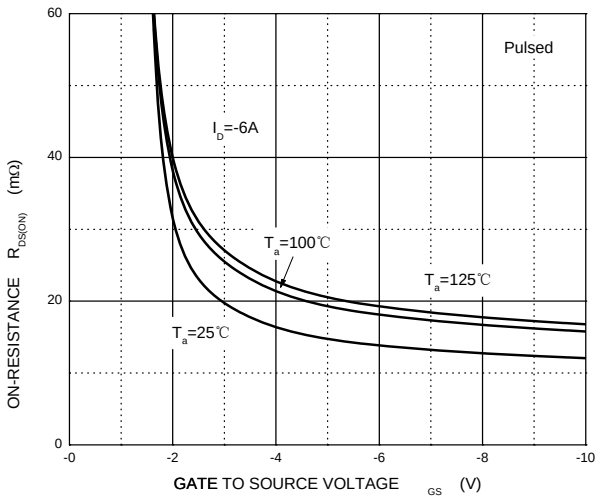
Transfer Characteristics



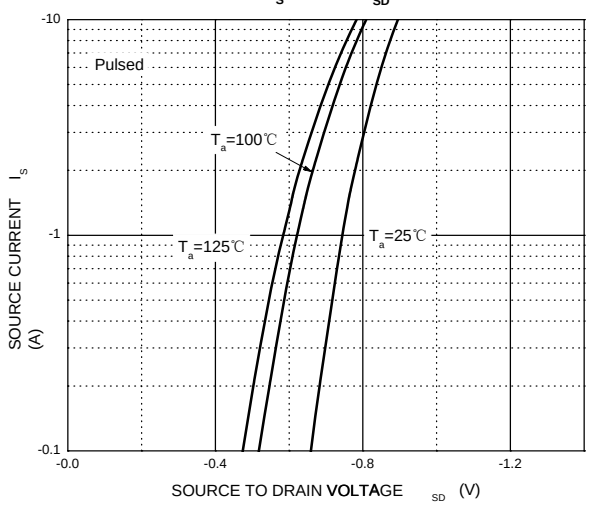
$R_{DS(ON)}$ — I_D



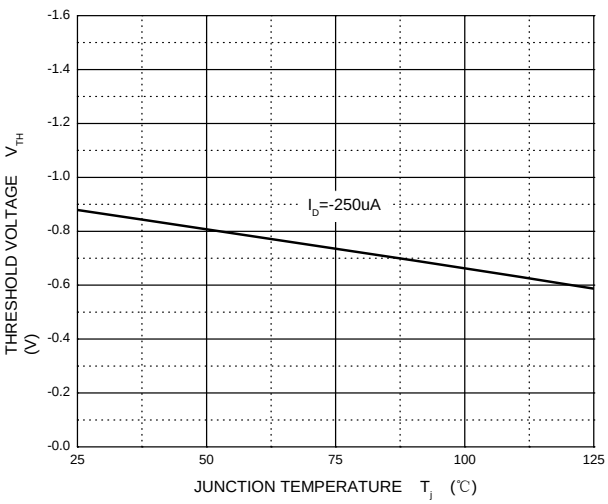
$R_{DS(ON)}$ — V_{GS}



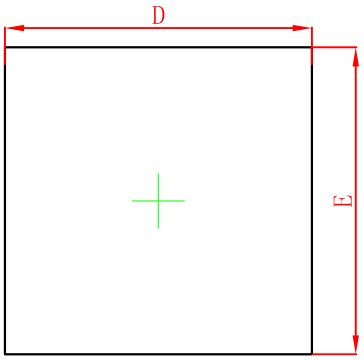
I_S — V_{SD}

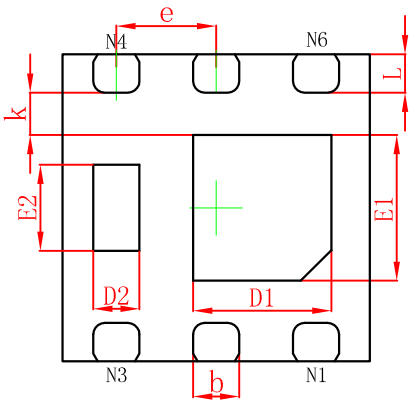


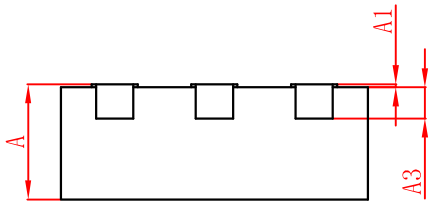
Threshold Voltage



DFNWB2×2-6L-J Package Information



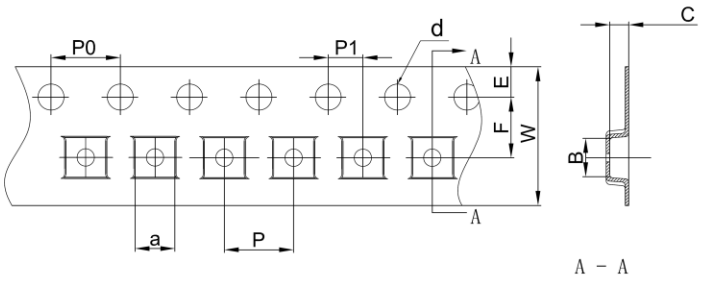




Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800		0.032
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.924	2.076	0.076	0.082
E	1.924	2.076	0.076	0.082
D1	0.800	1.000	0.031	0.039
E1	0.850	1.050	0.033	0.041
D2	0.200	0.400	0.008	0.016
E2	0.460	0.660	0.018	0.026
k	0.200MIN.		0.008MIN.	
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
L	0.174	0.326	0.007	0.013

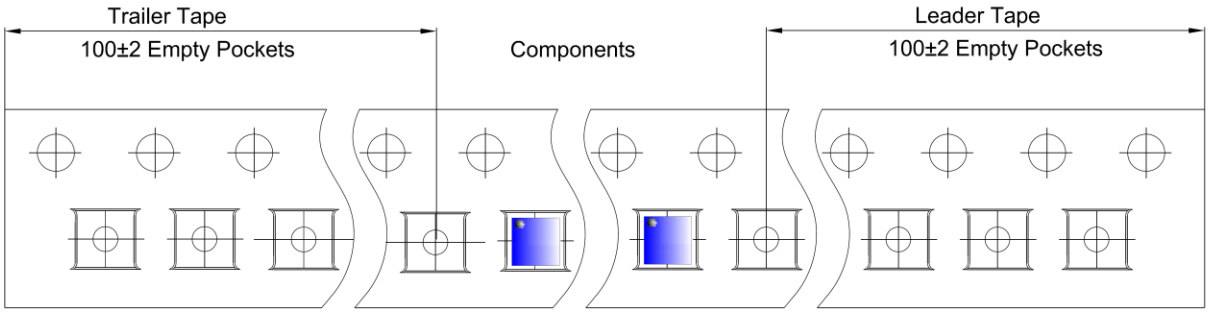
DFNWB2×2-6L-J Tape and Reel

DFNWB2×2-6L Embossed Carrier Tape

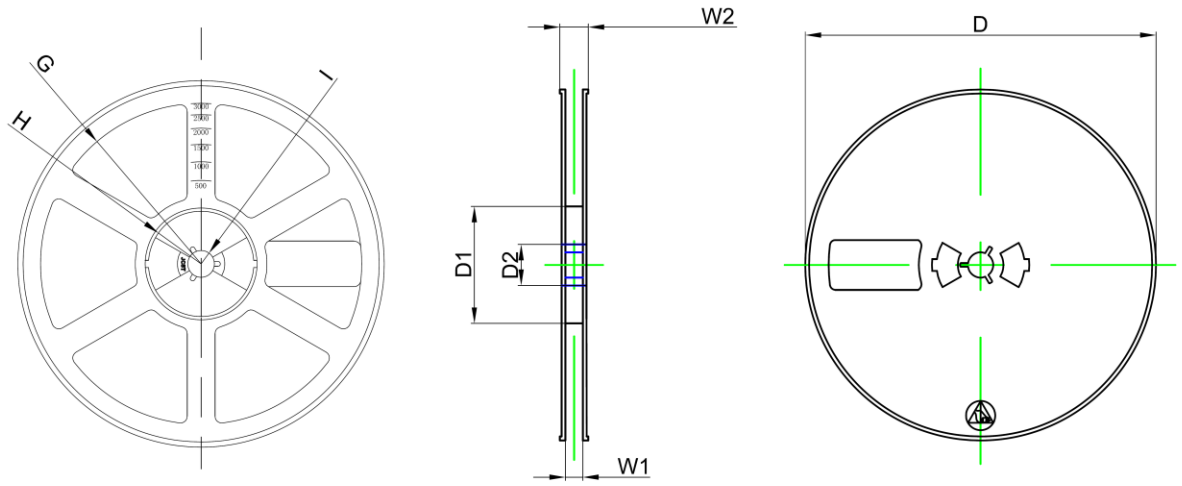


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
DFNWB2×2-6L	2.30	2.30	1.10	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

DFNWB2×2-6L Tape Leader and Trailer



DFNWB2×2-6L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	