

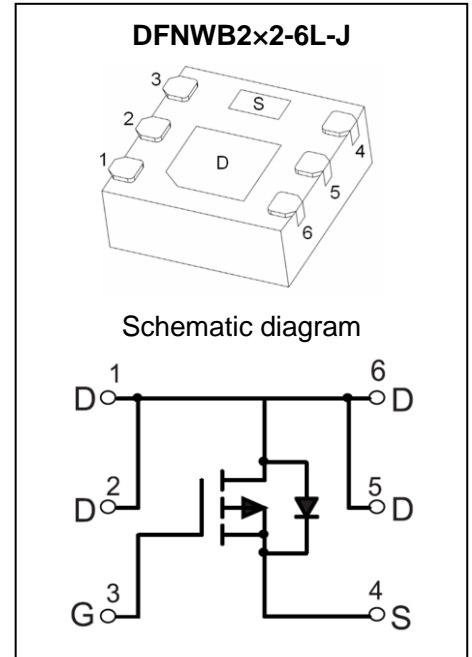
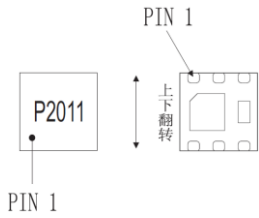
### Product Summary

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

### DESCRIPTION

The SRMP2011 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.

### MARKING:



### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

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

**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

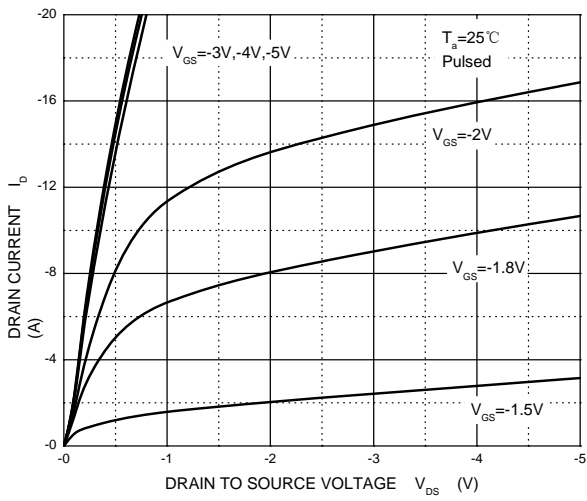
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Off Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-20			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0V			-1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±12V, V <sub>DS</sub> = 0V			±100	nA
<b>On Characteristics<sup>(3)</sup></b>						
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.45	-0.6	-1.0	V
Drain-source on-resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -7.2A		17	22	mΩ
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -6.4A		27	40	
Forward tranconductance	g <sub>FS</sub>	V <sub>DS</sub> = -10V, I <sub>D</sub> = -7.2A		16		S
<b>Dynamic characteristics<sup>(4)</sup></b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = 0V, f = 1MHz		2700		pF
Output Capacitance	C <sub>oss</sub>			680		
Reverse Transfer Capacitance	C <sub>rss</sub>			590		
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -6V, V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -10A		35		nC
Gate-Source Charge	Q <sub>gs</sub>			5		
Gate-Drain Charge	Q <sub>gd</sub>			10		
<b>SWITCHING CHARACTERISTICS<sup>(4)</sup></b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GEN</sub> = -4.5V, V <sub>DD</sub> = -10V, I <sub>D</sub> = -1A, R <sub>g</sub> = 10Ω		11		ns
Turn-on rise time	t <sub>r</sub>			35		
Turn-off delay time	t <sub>d(off)</sub>			30		
Turn-off fall time	t <sub>f</sub>			10		
<b>Drain-Source Diode Characteristics</b>						
Diode Forward Current	I <sub>S</sub>				-11	A
Diode Forward Voltage <sup>(3)</sup>	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>SD</sub> = -1.9A			-1.2	V

**Notes:**

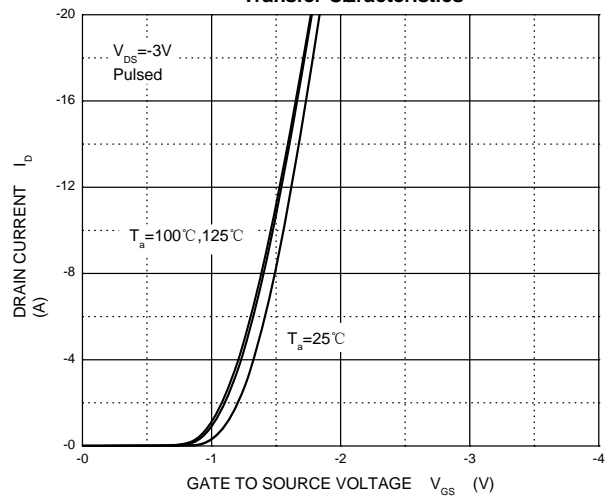
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T<sub>a</sub>=25°C.
3. Pulse Test: Pulse With ≤300μs, Duty Cycle ≤2%.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

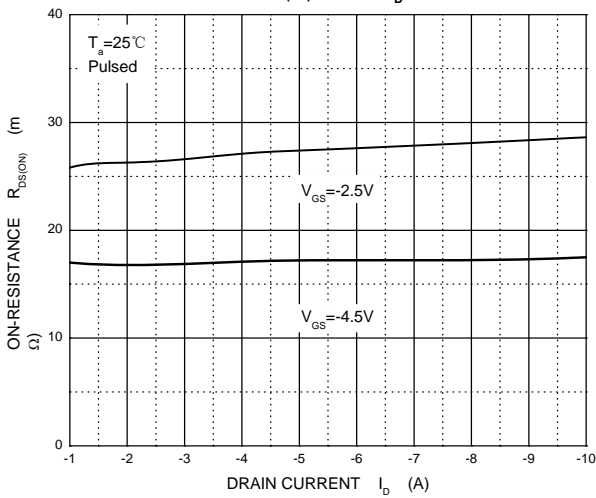
Output Characteristic



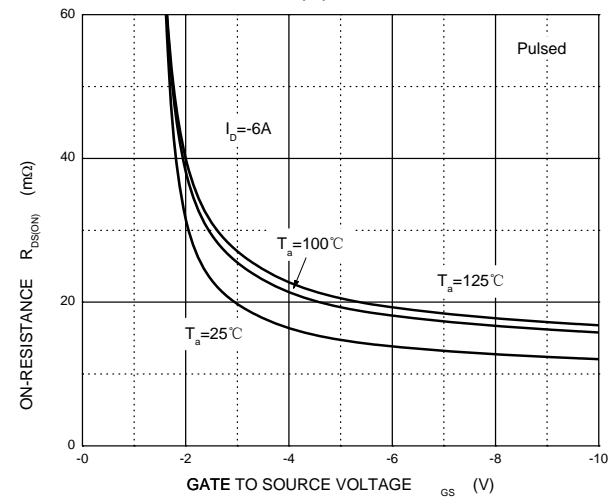
Transfer Characteristics



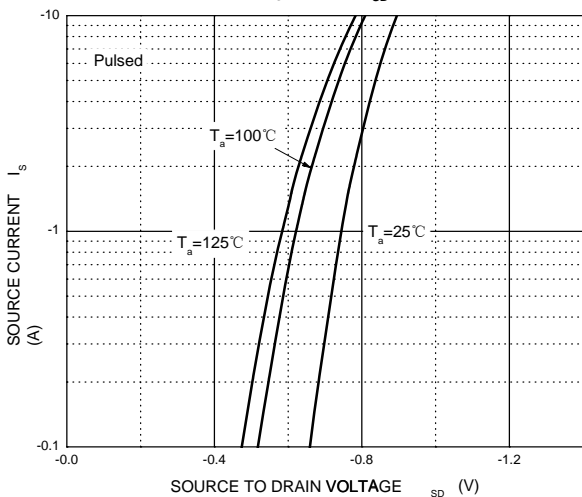
$R_{DS(ON)}$  —  $I_D$



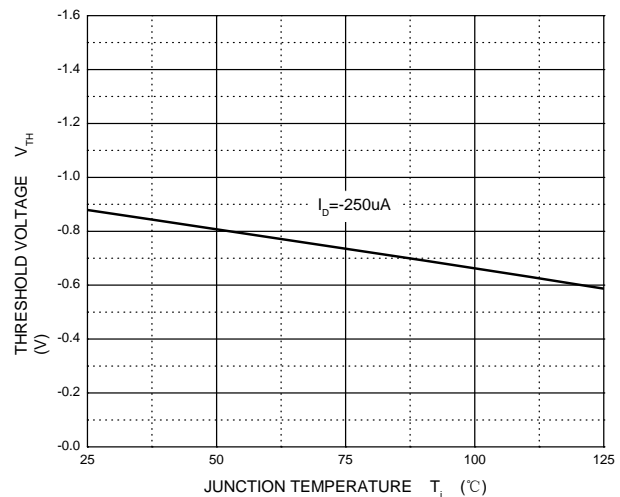
$R_{DS(ON)}$  —  $V_{GS}$



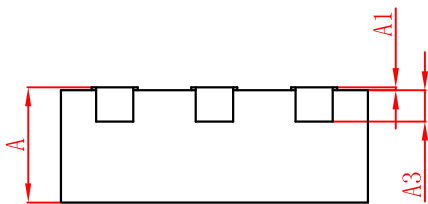
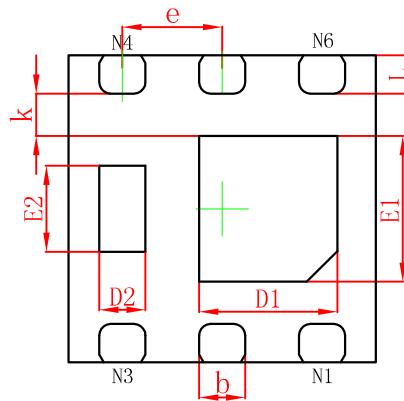
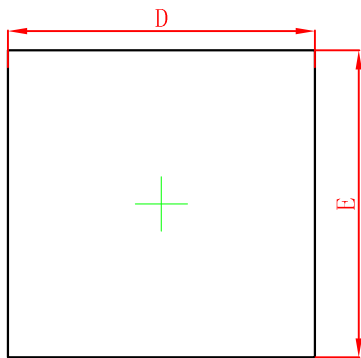
$I_S$  —  $V_{SD}$



Threshold Voltage

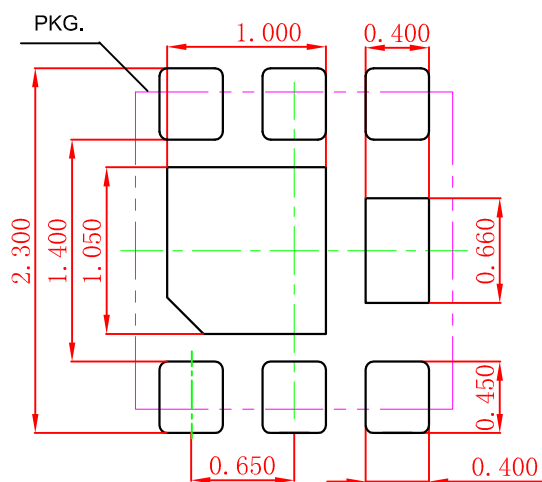


DFNWB2x2-6L-J Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.032	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

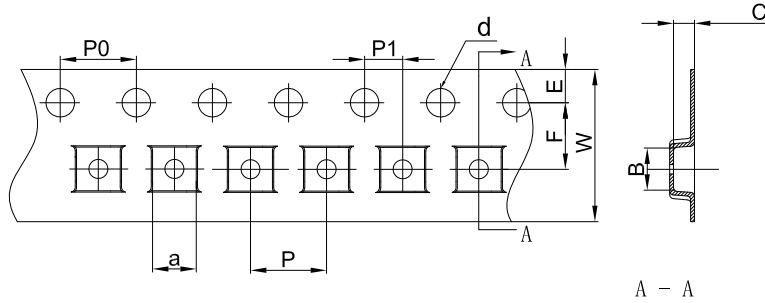
DFNWB2X2-6L-J Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.050\text{mm}$ .
  3. The pad layout is for reference purposes only.

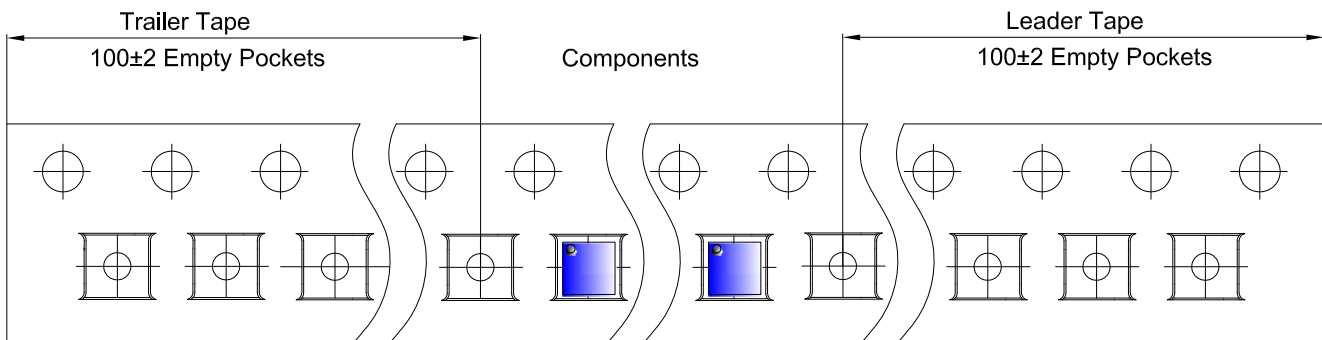
DFNWB2×2-6L Tape and Reel

DFNWB2×2-6L Embossed Carrier Tape

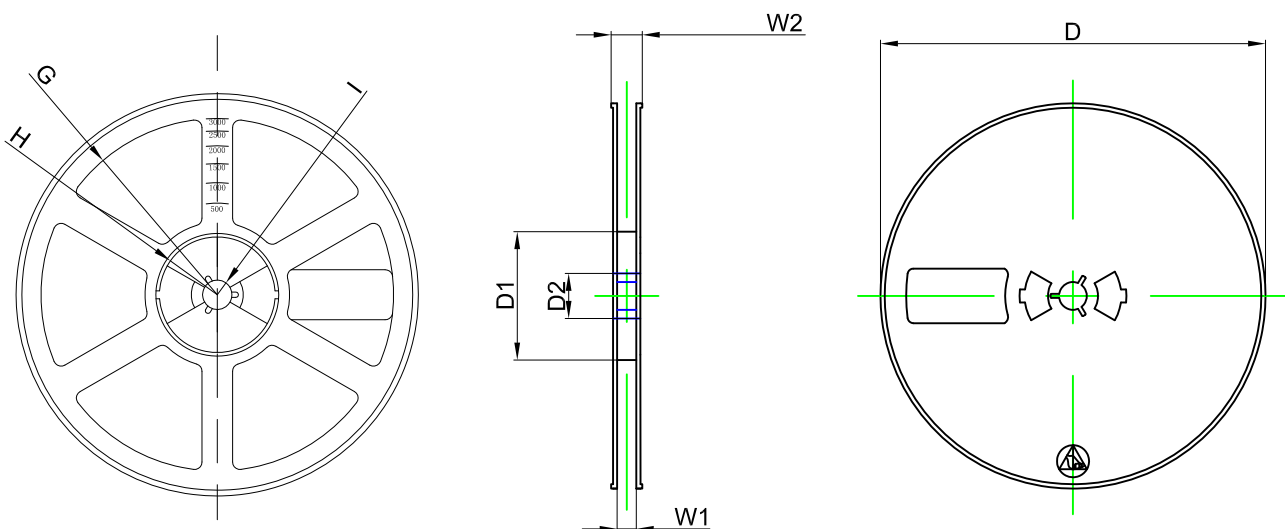


Dimensions are in millimeter											
Pkg type	a	B	C	d	E	F	P0	P	P1	W	
DFNWB2×2-6L	2.30	2.30	1.10	∅1.50	1.75	3.50	4.00	4.00	2.00	8.00	
(Tolerance)	±0.05	±0.05	±0.05	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.3/-0.1	

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	∅180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10
(Tolerance)	±2	±1	±1	±1	±1	±1	±1	±1

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	