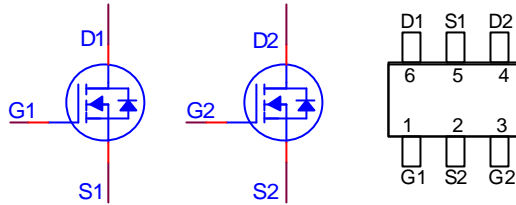


**PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	$I_D$
30	68m	2.5A



G : GATE  
D : DRAIN  
S : SOURCE

**ABSOLUTE MAXIMUM RATINGS ( $T_C = 25\text{ }^\circ\text{C}$  Unless Otherwise Noted)**

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		$V_{DS}$	30	V
Gate-Source Voltage		$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$T_C = 25\text{ }^\circ\text{C}$	$I_D$	4	A
	$T_C = 70\text{ }^\circ\text{C}$		3	
Pulsed Drain Current <sup>1</sup>		$I_{DM}$	10	
Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	$P_D$	1.6	W
	$T_C = 70\text{ }^\circ\text{C}$		1.12	
Junction & Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	$^\circ\text{C}$
Lead Temperature ( <sup>1</sup> / <sub>16</sub> " from case for 10 sec.)		$T_L$	275	

**THERMAL RESISTANCE RATINGS**

THERMAL RESISTANCE		SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	t 5sec	$R_{\theta JA}$		78	$^\circ\text{C} / \text{W}$
Junction-to-Ambient	Steady State	$R_{\theta JA}$		150	$^\circ\text{C} / \text{W}$
Junction-to-Lead	Steady State	$R_{\theta JL}$		80	$^\circ\text{C} / \text{W}$

<sup>1</sup>Pulse width limited by maximum junction temperature.

<sup>2</sup>Duty cycle  $\leq 1\%$

**ELECTRICAL CHARACTERISTICS ( $T_C = 25\text{ }^\circ\text{C}$ , Unless Otherwise Noted)**

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
<b>STATIC</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	1.5	2.5	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 24V, V_{GS} = 0V$			1	$\mu\text{A}$
		$V_{DS} = 20V, V_{GS} = 0V, T_j = 55\text{ }^\circ\text{C}$			10	
On-State Drain Current <sup>1</sup>	$I_{D(ON)}$	$V_{DS} = 5V, V_{GS} = 10V$	8			A

Drain-Source On-State Resistance <sup>1</sup>	R <sub>D(S)(ON)</sub>	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 2A	75	98	m
		V <sub>GS</sub> = 10V, I <sub>D</sub> = 2.5A	55	68	
Forward Transconductance <sup>1</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = 2.5A	7		S
<b>DYNAMIC</b>					
Total Gate Charge <sup>2</sup>	Q <sub>g</sub>	V <sub>DS</sub> = 0.5V <sub>(BR)DSS</sub> , V <sub>GS</sub> = 10V, I <sub>D</sub> = 2.5A	5	7.5	nC
Gate-Source Charge <sup>2</sup>	Q <sub>gs</sub>		0.8		
Gate-Drain Charge <sup>2</sup>	Q <sub>gd</sub>		1.0		
Turn-On Delay Time <sup>2</sup>	t <sub>d(on)</sub>	V <sub>DS</sub> = 15V, R <sub>L</sub> = 15 I <sub>D</sub> ≅ 1A, V <sub>GS</sub> = 10V, R <sub>GEN</sub> = 6	7	11	nS
Rise Time <sup>2</sup>	t <sub>r</sub>		12	18	
Turn-Off Delay Time <sup>2</sup>	t <sub>d(off)</sub>		12	18	
Fall Time <sup>2</sup>	t <sub>f</sub>		7	11	
<b>SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T<sub>C</sub> = 25 °C)</b>					
Forward Voltage <sup>1</sup>	V <sub>SD</sub>	I <sub>F</sub> = 0.8A, V <sub>GS</sub> = 0V		1.2	V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 0.8A, di <sub>F</sub> /dt = 100A / μS	40	80	nS

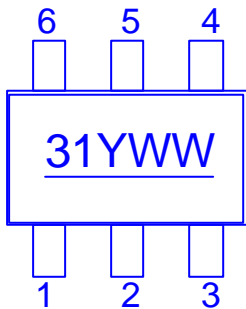
<sup>1</sup>Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

<sup>2</sup>Independent of operating temperature.

<sup>3</sup>Pulse width limited by maximum junction temperature.

**REMARK: THIS PRODUCT MARKED WITH “31YWW”**

Orders for parts with Lead-Free plating can be placed using the PXXXXXXG parts name.



**Marking Description:**

3 – Dual N MOSFET

1 - Serial Number

Y - Year

W - Week

**TSOP- 6 MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A		0.95		H	0.08	0.13	0.2
B	2.5	2.8	3.1	I	0.3		0.6
C	1.5	1.6	1.7	J			
D	2.7	2.9	3.1	K			
E	0.7		1.2	L			
F	0		0.15	M			
G	0.3	0.4	0.5	N			

