



## Si4804BDY vs. Si4804DY

**Description:** Dual N-Channel, 30-V (D-S) MOSFET  
**Package:** SOIC-8  
**Pin Out:** Identical

**Part Number Replacements:**

- Si4804BDY Replaces Si4804DY
- Si4804BDY—E3 (Lead Free version) Replaces Si4804DY
- Si4804BDY-T1 Replaces Si4804DY-T1
- Si4804BDY-T1—E3 (Lead Free version) Replaces Si4804DY-T1

**Summary of Performance:**

The Si4804BDY is the replacement for the original Si4804DY; both parts perform identically including limits to the parametric tables below.

<b>ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)</b>				
Parameter	Symbol	Si4804BDY	Si4804DY	Unit
Drain-Source Voltage	V <sub>DS</sub>	30	30	V
Gate-Source Voltage	V <sub>GS</sub>	± 20	± 20	
Continuous Drain Current	T <sub>A</sub> = 25 °C	7.5	7.5	A
	T <sub>A</sub> = 70 °C	6	6	
Pulsed Drain Current	I <sub>DM</sub>	30	20	
Continuous Source Current (MOSFET Diode Conduction)	I <sub>S</sub>	2.3	1.7	
Power Dissipation	T <sub>A</sub> = 25 °C	1.7	2.0	W
	T <sub>A</sub> = 70 °C	2.0	1.3	
Operating Junction and Storage Temperature Range	T <sub>j</sub> and T <sub>stg</sub>	-55 to 150	-55 to 150	°C
Maximum Junction-to-Ambient	R <sub>thJA</sub>	62.5	62.5	°C/W

<b>SPECIFICATIONS (T<sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)</b>								
Parameter	Symbol	Si4804BDY			Si4804DY			Unit
		Min	Typ	Max	Min	Typ	Max	
<b>Static</b>								
Gate-Threshold Voltage	V <sub>G(th)</sub>	0.8		3.0	0.8			V
Gate-Body Leakage	I <sub>GSS</sub>			± 100			± 100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>			1			1	µA
On-State Drain Current	V <sub>GS</sub> = 10 V	20			20			A
	V <sub>GS</sub> = 4.5 V		0.017	0.022		0.018	0.022	
Drain-Source On-Resistance	r <sub>Ds(on)</sub>		0.024	0.030		0.024	0.030	Ω
Forward Transconductance	g <sub>fs</sub>		19			22		S
Diode Forward Voltage	V <sub>SD</sub>		0.75	1.2		0.8	1.2	V
<b>Dynamic</b>								
Total Gate Charge	Q <sub>g</sub>		7	11		13	20	nC
Gate-Source Charge	Q <sub>gs</sub>		2.9			2		
Gate-Drain Charge	Q <sub>gd</sub>		2.5			2.7		
Gate Resistance	R <sub>g</sub>	0.5	1.5	2.6		NS		Ω
<b>Switching</b>								
Turn-On Time	t <sub>d(on)</sub>		9	15		8	16	ns
	t <sub>r</sub>		10	17		10	20	
Turn-Off Time	t <sub>d(off)</sub>		19	30		21	40	
	t <sub>f</sub>		9	15		10	20	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>		35	55		40	80	

NS denotes parameter not specified in original data sheet.