



## Specification Comparison

### Vishay Siliconix

## 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.

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter	Symbol	Si4804BDY	Si4804DY	Unit
Drain-Source Voltage	$V_{DS}$	30	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	$\pm 20$	
Continuous Drain Current	$T_A = 25^\circ\text{C}$	7.5	7.5	A
	$T_A = 70^\circ\text{C}$	6	6	
Pulsed Drain Current	$I_{DM}$	30	20	
Continuous Source Current (MOSFET Diode Conduction)	$I_S$	2.3	1.7	
Power Dissipation	$T_A = 25^\circ\text{C}$	1.7	2.0	W
	$T_A = 70^\circ\text{C}$	2.0	1.3	
Operating Junction and Storage Temperature Range	$T_J$ and $T_{stg}$	-55 to 150	-55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient	$R_{thJA}$	62.5	62.5	$^\circ\text{C/W}$

SPECIFICATIONS (T <sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)									
Parameter		Symbol	Si4804BDY			Si4804DY			Unit
			Min	Typ	Max	Min	Typ	Max	
Static									
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	I <sub>D(on)</sub>	20			20		A	
Drain-Source On-Resistance	V <sub>GS</sub> = 10 V	r <sub>Ds(on)</sub>		0.017	0.022		0.018	0.022	
	V <sub>GS</sub> = 4.5 V			0.024	0.030		0.024	0.030	
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
Dynamic									
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
Switching									
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.