



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 °C UNLESS OTHERWISE NOTED)				
Parameter	Symbol	Si4804BDY	Si4804DY	Unit
Drain-Source Voltage	V _{DS}	30	30	V
Gate-Source Voltage	V _{GS}	± 20	± 20	
Continuous Drain Current	T _A = 25 °C	7.5	7.5	A
	T _A = 70 °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 °C	1.7	2.0	W
	T _A = 70 °C	2.0	1.3	
Operating Junction and Storage Temperature Range	T _j and T _{stg}	-55 to 150	-55 to 150	°C
Maximum Junction-to-Ambient	R _{thJA}	62.5	62.5	°C/W

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

NS denotes parameter not specified in original data sheet.