



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}	± 20	± 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 _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	I _{D(on)}	20			20		A	
Drain-Source On-Resistance	V _{GS} = 10 V	r _{DS(on)}		0.017	0.022		0.018	0.022	
	V _{GS} = 4.5 V			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.