



勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-54151736
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[Http://www.100y.com.tw](http://www.100y.com.tw)

Specification Comparison

Vishay Siliconix

Si4814BDY vs. Si4814DY

Description: Dual N-Channel, 30-V (D-S) MOSFET with Schottky Diode
Package: SO-8
Pin Out: Identical

Part Number Replacements:

Si4814BDY-T1-E3 Replaces Si4814DY-T1-E3
Si4814BDY-T1-E3 Replaces Si4814DY-T1

Summary of Performance:

The Si4814BDY is the replacement to the original Si4814DY; both parts perform identically, including limits to the parametric tables below.

ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)							
Parameter		Symbol	Si4814BDY		Si4814DY		Unit
			Ch-1	Ch-2	Ch-1	Ch-2	
Drain-Source Voltage		V _{DS}	30		30		V
Gate-Source Voltage		V _{GS}	±20		±20		
Continuous Drain Current	T _A = 25°C	I _D	7.5	7.8	7.0	7.8	A
	T _A = 70°C		6	6.3	5.6	6	
Pulsed Drain Current		I _{DM}	40	40	40	40	
Continuous Source Current (MOSFET Diode Conduction)		I _S	1.7	1.8	1.7	1.8	
Power Dissipation	T _A = 25°C	P _D	1.9	2.0	1.9	2.0	W
	T _A = 70°C		1.2	1.3	1.2	1.3	
Operating Junction & Storage Temperature Range		T _j & T _{stg}	-55 to 150		-55 to 150		°C
Maximum Junction-to-Ambient - MOSFET		R _{thJA}	65	60	65	60	°C/W

MOSFET SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED)											
Parameter		Symbol	Si4814BDY			Si4814DY			Unit		
			Min	Typ	Max	Min	Typ	Max			
Static											
Gate-Threshold Voltage		V _{GS(th)}	Ch-1	1.5		3.0	0.8		NS	V	
			Ch-2	1.5		2.7	0.8		NS		
Gate-Body Leakage		I _{GSS}	Ch-1			±100			±100	nA	
			Ch-2			±100			±100		
Zero Gate Voltage Drain Current		I _{DSS}	Ch-1			1			1	μA	
			Ch-2			100			100		
On-State Drain Current		V _{GS} = 10 V	I _{D(on)}	Ch-1	20			20		A	
				Ch-2	20			20			
Drain-Source On-Resistance		V _{GS} = 10 V	r _{DS(on)}	Ch-1		0.0145	0.018		0.0175	0.021	Ω
				Ch-2		0.015	0.018		0.0165	0.020	
		V _{GS} = 4.5 V		Ch-1		0.019	0.023		0.027	0.0325	
				Ch-2		0.018	0.022		0.022	0.0265	
Forward Transconductance		g _{fs}	Ch-1		30			17		S	
			Ch-2		35			20			
Diode Forward Voltage		V _{SD}	Ch-1		0.75	1.1		0.7	1.1	V	
			Ch-2		0.47	0.5		0.47	0.5		



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MOSFET SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED)									
Parameter	Symbol	Si4814BDY			Si4814DY			Unit	
		Min	Typ	Max	Min	Typ	Max		
Dynamic									
Total Charge	Qg	Ch-1		6.6	10		6.5	10	nC
		Ch-2		8.9	14		9.7	15	
Gate-Source Charge	Qgs	Ch-1		2.9			1.5		
		Ch-2		3.4			2.6		
Gate-Drain Charge	Qgd	Ch-1		2.3			2.7		
		Ch-2		2.4			3.8		
Gate Resistance	Rg	Ch-1	0.5	1.9	2.9	0.5	1.6	2.6	Ω
		Ch-2	0.5	2.3	3.5	0.5	1.8	3.1	
Switching									
Turn-On Time	td(on)	Ch-1		8	15		12	20	ns
		Ch-2		9	15		13	20	
	tr	Ch-1		11	18		13	20	
		Ch-2		13	20		13	20	
Turn-Off Time	td(off)	Ch-1		21	32		22	35	
		Ch-2		27	40		29	45	
	tr	Ch-1		6	10		8	15	
		Ch-2		9	15		12	20	
Source-Drain Reverse Recovery Time	trr	Ch-1		28	40		50	80	
		Ch-2		24	35		46	80	

SCHOTTKY SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED)									
Parameter	Symbol		Si4814BDY			Si4814DY			Unit
			Min	Typ	Max	Min	Typ	Max	
Static									
Forward Voltage Drop	V _F	T _J = 25°C		0.47	0.50		0.47	0.50	nC
		T _J = 125°C		0.36	0.42		0.36	0.42	
Maximum Reverse Leakage Current	I _{rm}	T _J = 25°C		0.004	0.100		0.004	0.100	mA
		T _J = 100°C		0.7	10		0.7	10	
		T _J = 125°C		3.0	20		3.0	20	
Junction Capacitance	C _T			50			50		pF

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