Si4830ADY vs. Si4830DY

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

Part Number Replacements:

Si4830ADY Replaces Si4830DY
Si4830ADY-E3 (Lead (Pb)-free version) Replaces Si4830DY
Si4830ADY-T1 Replaces Si4830DY-T1
Si4830ADY-T1-E3 (Lead (Pb)-free version) Replaces Si4830DY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si4830ADY**	**Si4830DY**	**Unit**
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	7.5	A
	T_A = 70 °C		6	6	
Pulsed Drain Current		I_{DM}	30	30	
Continuous Source Current (MOSFET Diode Conduction)		I_S	1.7	1.7	
Power Dissipation	T_A = 25 °C	P_D	2.0	2.0	W
	T_A = 70 °C		1.3	1.3	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient (MOSFET)		R_{thJA}	62.5	62.5	°C/W
Maximum Junction-to-Ambient (Schottky)			62.5	62.5	

SPECIFICATIONS T_J = 25 °C, unless otherwise noted										
Parameter			**Symbol**	**Si4830ADY**			**Si4830DY**			**Unit**
				Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static										
Gate-Threshold Voltage			$V_{GS(th)}$	0.8		3.0	0.8			V
Gate-Body Leakage			I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current	Ch-1	T_J = 25 °C	I_{DSS}			1			1	µA
	Ch-2					100			100	
	Ch-1	T_J = 85 °C				15			15	
	Ch-2					2000			2000	
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	Ω
	V_{GS} = 4.5 V				0.024	0.030		0.024	0.030	
Forward Transconductance			g_{fs}		19			22		S
Diode Forward Voltage	Ch-1		V_{SD}		0.75	1.2		0.8	1.2	V
	Ch-2				0.47	0.5		0.47	0.5	

Specification Comparison

Vishay Siliconix

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
Parameter		**Symbol**	**Si4830ADY**			**Si4830DY**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
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	2.4		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	Ch-1	t_{rr}		35	55		40	80	
	Ch-2			32	55		32	70	

NS denotes parameter not specified in original data sheet.

Specification comparisons are supplied as a courtesy to compare two devices and do not constitute a commercial product datasheet or any guarantee of identical performance. Designers should refer to the appropriate datasheets of the same number for guaranteed specification limits.