Si4835BDY vs. Si4835DY

Description: **P-Channel, 30 V (D-S) MOSFET**
Package: **SOIC-8**
Pin Out: **Identical**

Part Number Replacements:

Si4835BDY Replaces Si4835DY
Si4835BDY-E3 (Lead (Pb)-free version) Replaces Si4835DY
Si4835BDY-T1 Replaces Si4835DY-T1
Si4835BDY-T1-E3 (Lead (Pb)-free version) Replaces Si4835DY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted

Parameter		Symbol	Si4835BDY	Si4835DY	Unit
Drain-Source Voltage		V_{DS}	- 30	- 30	V
Gate-Source Voltage		V_{GS}	± 25	± 25	
Continuous Drain Current	T_A = 25 °C	I_D	- 9.6	- 8.0	A
	T_A = 70 °C		- 7.7	- 6.4	
Pulsed Drain Current		I_{DM}	- 50	- 50	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 2.1	- 2.3	
Power Dissipation	T_A = 25 °C	P_D	2.5	2.5	W
	T_A = 70 °C		1.6	1.6	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	50	50	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted

Parameter		Symbol	Si4835BDY			Si4835DY			Unit
			Min	Typ	Max	Min	Typ	Max	
Static									
Gate-Threshold Voltage		$V_{G(th)}$	- 1.0		- 3.0	- 1.0			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	$I_{D(on)}$	- 50			- 40			A
	V_{GS} = - 4.5 V		NS			- 10			
Drain-Source On-Resistance	V_{GS} = - 10 V	$r_{DS(on)}$		0.014	0.018		0.0155	0.019	Ω
	V_{GS} = - 4.5 V			0.023	0.030		0.027	0.033	
Forward Transconductance		g_{fs}		30			17		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.75	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		25	37		21	31	nC
Gate-Source Charge		Q_{gs}		6.5			6.5		
Gate-Drain Charge		Q_{gd}		12.5			8		
Gate Resistance		R_g	1.0	2.9	4.9	1.0	2.6	4.4	Ω
Switching									
Turn-On Time		$t_{d(on)}$		15	25		16	30	ns
		t_r		13	20		13	25	
Turn-Off Time		$t_{d(off)}$		60	100		56	100	
		t_f		45	70		30	60	
Source-Drain Reverse Recovery Time		t_{rr}		45	80		40	80	

NS denotes parameter not specified.

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.