Si4831BDY vs. Si4831DY

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

Part Number Replacements

Si4831BDY-T1-E3 Replaces Si4831DY-T1-E3
Si4831BDY-T1-E3 Replaces Si4831DY-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si4831BDY**	**Si4831DY**	**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	- 5.1	- 5	A
	T_A = 70 °C		- 3.9	- 3.9	
Pulsed Drain Current		I_{DM}	- 30	- 20	
Continuous Source Current (MOSFET Diode Conduction)	T_C = 25 °C	I_S	- 1.6	- 1.7	
Power Dissipation	T_A = 25 °C	P_D	2.0	1.83	W
	T_A = 70 °C		1.2	1.17	
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**	**Si4831BDY**			**Si4831DY**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 1		- 3	- 1.0		NS[b]	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	$I_{D(on)}$	- 10			- 20			A
Drain-Source On-Resistance	V_{GS} = - 10 V	$r_{DS(on)}$		0.034	0.042		0.036	0.045	Ω
	V_{GS} = - 4.5 V			0.052	0.065		0.06	0.09	
Forward Transconductance		g_{fs}		11			9		S
Diode Forward Voltage		V_{SD}		- 0.78	- 1.2		- 0.75	- 1.2	V
Dynamic									
Total Gate Charge		Q_g[a]		7.8	12		10	20	nC
Gate-Source Charge		Q_{gs}		1.6			4.5		
Gate-Drain Charge		Q_{gd}		3.5			3.6		
Gate Resistance		R_g		7	14		NS[b]		Ω

Notes:
a. V_{GS} = - 4.5 V for the Si4831BDY; - 5 V for the Si4831DY.
b. NS denotes not specified in original datasheet.

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.