Si4835DDY vs. Si4835BDY

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

Part Number Replacements: Si4835DDY-T1-E3 or Si4835DDY-T1-GE3 replaces Si4835BDY-T1-E3
Si4835DDY-T1-E3 or Si4835DDY-T1-GE3 replaces Si4835BDY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si4835DDY**	**Si4835BDY**	**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	- 8.7	- 9.6	A
	T_A = 70 °C		- 7.7	- 7.7	
Pulsed Drain Current		I_{DM}	- 50	- 50	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 2.0	- 2.1	
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									
			Si4835DDY			**Si4835BDY**			
PARAMETER		**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 1.5		- 3.0	- 1.0		- 3.0	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	$I_{D(on)}$	- 30			- 50			A
Drain-Source On-Resistance	V_{GS} = - 10 V	$R_{DS(on)}$		0.014	0.018		0.014	0.018	Ω
	V_{GS} = - 4.5 V			0.0245	0.030		0.023	0.030	
Forward Transconductance		g_{fs}		23			30		S
Diode Forward Voltage		V_{SD}		- 0.75	- 1.2		- 0.8	- 1.2	V
Dynamic									
Total Gate Charge[a]		Q_g		22	33		25	37	nC
Gate-Source Charge		Q_{gs}		6			6.5		
Gate-Drain Charge		Q_{gd}		11			12.5		
Gate Resistance		R_g	0.3	1.3	2.5	1.0	2.9	4.9	Ω
Switching									
Turn-On-Time		$t_{d(on)}$		11	22		15	25	ns
		t_r		13	25		13	20	
Turn-Off-Time		$t_{d(off)}$		32	50		60	100	
		t_f		9	18		45	70	
Source-Drain Reverse Recovery Time		t_{rr}		28	45		45	80	

Note

a. V_{GS} = 4.5 V for Si4835DDY; V_{GS} = 5 V for Si4835BDY

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.