Si9934BDY vs. Si9934DY

Description: **Dual P-Channel, 2.5 V (G-S) MOSFET**
Package: **SO-8**
Pin Out: **Identical**

Part Number Replacements:
Si9934BDY-T1-E3 Replaces Si9934DY-T1-E3
Si9934BDY-T1 Replaces Si9934DY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si9934BDY**	**Si9934DY**	**Unit**
Drain-Source Voltage		V_{DS}	- 12	- 12	V
Gate-Source Voltage		V_{GS}	± 8	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	- 6.4	- 5.0	A
	T_A = 70 °C		- 5.1	- 4.0	
Pulsed Drain Current		I_{DM}	- 20	- 20	
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		R_{thJA}	62.5	62.5	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
Parameter		**Symbol**	**Si9934BDY**			**Si9934DY**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.6		- 1.4	- 0.6		NS	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} = - 4.5 V	$I_{D(on)}$	- 20			- 20			A
	V_{GS} = - 2.5 V		NS			- 6			
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$r_{DS(on)}$		0.028	0.035		0.039	0.05	Ω
	V_{GS} = - 2.5 V			0.044	0.056		0.0514	0.074	
Forward Transconductance		g_{fs}		17			16		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.75	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		13	20		21	40	nC
Gate-Source Charge		Q_{gs}		2.6			3		
Gate-Drain Charge		Q_{gd}		4.0			6		
Gate Resistance		R_g		9			NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		19	30		20	40	ns
		t_r		35	55		40	80	
Turn-Off Time		$t_{d(off)}$		80	120		100	200	
		t_f		50	75		60	120	
Source-Drain Reverse Recovery Time		t_{rr}		40	80		67	100	

NS denotes 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.