Si4963BDY vs. Si4963DY

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

Part Number Replacements:
Si4963BDY-T1-E3 Replaces Si4963DY-T1-E3
Si4963BDY-T1-E3 Replaces Si4963DY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si4963BDY**	**Si4963DY**	**Unit**
Drain-Source Voltage		V_{DS}	- 20	- 20	V
Gate-Source Voltage		V_{GS}	± 12	± 12	
Continuous Drain Current	T_A = 25 °C	I_D	- 6.5	- 6.2	A
	T_A = 70 °C		- 5.2	- 4.9	
Pulsed Drain Current		I_{DM}	- 40	- 40	
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**	**Si4963BDY**			**Si4963DY**			**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
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$r_{DS(on)}$		0.025	0.032		0.022	0.033	Ω
	V_{GS} = - 2.5 V			0.040	0.050		0.035	0.050	
Forward Transconductance		g_{fs}		18			17		S
Diode Forward Voltage		V_{SD}		- 0.75	- 1.2		- 0.75	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		14	21		17	35	nC
Gate-Source Charge		Q_{gs}		2.6			4.1		
Gate-Drain Charge		Q_{gd}		4.6			4.3		
Gate Resistance		R_g		8.3			NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		30	45		25	50	ns
		t_r		40	60		30	50	
Turn-Off Time		$t_{d(off)}$		80	120		70	150	
		t_f		55	85		50	70	
Source-Drain Reverse Recovery Time		t_{rr}		40	80		40	80	

NS denotes 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.