Si4922BDY vs. Si4922DY

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

Part Number Replacements: Si4922BDY-T1-E3 replaces Si4922DY-T1-E3
Si4922BDY-T1-E3 replaces Si4922DY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si4922BDY**	**Si4922DY**	**UNIT**
Drain-Source Voltage		V_{DS}	30	30	V
Gate-Source Voltage		V_{GS}	± 12	± 12	
Continuous Drain Current	T_A = 25 °C	I_D	8	8.8	A
	T_A = 70 °C		6.6	7.1	
Pulsed Drain Current		I_{DM}	35	30	
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		1.28	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**	**Si4922BDY**			**Si4922DY**			**UNIT**
			MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	0.6		1.8	0.6			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	$I_{D(on)}$	20			30			A
Drain-Source On-Resistance	V_{GS} = 10 V	$R_{DS(on)}$		0.0135	0.016		0.013	0.016	Ω
	V_{GS} = 4.5 V			0.0145	0.018		0.015	0.018	
	V_{GS} = 2.5 V			0.018	0.024		0.020	0.024	
Forward Transconductance		g_{fs}		30			30		S
Diode Forward Voltage		V_{SD}		0.77	1.2		0.8	1.2	V
Dynamic									
Total Gate Charge		Q_g		19	29		22	33	nC
Gate-Source Charge		Q_{gs}		3.5			5.8		
Gate-Drain Charge		Q_{gd}		3.7			5.8		
Gate Resistance		R_g		1.8	3		NS		Ω
Dynamic									
Turn-On Time[a]		$t_{d(on)}$		7	14		12	24	ns
		t_r		27	41		10	20	
Turn-Off Time[a]		$t_{d(off)}$		31	47		75	150	
		t_r		8	15		26	50	
Source-Drain Reverse Recovery Time		t_{rr}		32	48		30	60	

Note

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.