Si5902BDC vs. Si5902DC

Description: **Dual N-Channel 30-V (D-S) MOSFET**
Package: **1206-8 ChipFET®**
Pin Out: **Identical**

Part Number Replacements

Si5902BDC-T1-E3 Replaces Si5902DC-T1-E3
Si5902BDC-T1-E3 Replaces Si5902DC-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si5902BDC**	**Si5902DC**	**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	3.7	3.9	A
	T_A = 85 °C		2.6	2.8	
Pulsed Drain Current		I_{DM}	10	10	
Continuous Source Current (MOSFET Diode Conduction)		I_S	2.6	1.8	
Power Dissipation	T_A = 25 °C	P_D	1.5	2.1	W
	T_A = 70 °C		0.8	1.1	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	85	60	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**SI5902BDC**			**Si5902DC**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	1.5		3.0	1.0		NS[a]	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			10			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.053	0.065		0.072	0.085	Ω
	V_{GS} = 4.5 V			0.081	0.100		0.120	0.143	
Forward Transconductance		g_{fs}		5			20		S
Diode Forward Voltage		V_{SD}		0.8	1.2		0.8	1.2	V
Dynamic									
Total Gate Charge		Q_g		4.5	7		5	7.5	nC
Gate-Source Charge		Q_{gs}		0.7			0.8		
Gate-Drain Charge		Q_{gd}		0.7			1.0		
Gate Resistance		R_g		3			NS[a]		Ω

Notes:
a. 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.