Si5402BDC vs. Si5402DC

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

Part Number Replacements:
Si5402BDC-T1-E3 Replaces Si5402DC-T1-E3
Si5402BDC-T1 Replaces Si5402DC-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si5402BDC**	**Si5402DC**	**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	6.7	6.7	A
	T_A = 70 °C		4.8	4.8	
Pulsed Drain Current		I_{DM}	20	20	
Continuous Source Current (MOSFET Diode Conduction)		I_S	2.1	2.1	
Power Dissipation	T_A = 25 °C	P_D	2.5	2.5	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}	50	50	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
Parameter		**Symbol**	**Si5402BDC**			**Si5402DC**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	1.0		3.0	1.0		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} = 10 V	$I_{D(on)}$	20			20			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.029	0.035		0.030	0.035	Ω
	V_{GS} = 4.5 V			0.035	0.042		0.045	0.055	
Forward Transconductance		g_{fs}		19			15		S
Diode Forward Voltage		V_{SD}		0.8	1.2		0.8	1.2	V
Dynamic									
Total Gate Charge		Q_g		10	20		13	20	nC
Gate-Source Charge		Q_{gs}		1.9			1.3		
Gate-Drain Charge		Q_{gd}		1.6			3.1		
Gate Resistance		R_g		14			NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		10	15		10	15	ns
		t_r		10	15		10	15	
Turn-Off Time		$t_{d(off)}$		27	40		25	40	
		t_f		10	15		10	15	
Source-Drain Reverse Recovery Time		t_{rr}		20	60		30	60	

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.