Si5404BDC vs. Si5404DC

Description: **N-Channel, 2.5 V (G-S) MOSFET**
Package: **1206-8 ChipFET®**
Pin Out: **Identical**

Part Number Replacements:
Si5404BDC-T1 Replaces Si5404DC-T1
Si5404BDC-T1-E3 (Lead (Pb)-free version) Replaces Si5404DC-T1-E3

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si5404BDC**	**Si5404DC**	**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	7.5	7.2	A
	T_A = 70 °C		5.4	5.2	
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**	**Si5404BDC**			**Si5404DC**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	0.6		1.5	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} = 4.5 V	$I_{D(on)}$	20			20			A
Drain-Source On-Resistance	V_{GS} = 4.5 V	$r_{DS(on)}$		0.022	0.028		0.016	0.019	Ω
	V_{GS} = 2.5 V			0.031	0.039		0.038	0.045	
Forward Transconductance		g_{fs}		26			20		S
Diode Forward Voltage		V_{SD}		0.7			0.8	1.2	V
Dynamic									
Total Gate Charge		Q_g		7	11		12	18	nC
Gate-Source Charge		Q_{gs}		1.7			2.4		
Gate-Drain Charge		Q_{gd}		2			3.2		
Gate Resistance		R_g		1.7			NS*		Ω
Switching									
Turn-On Time		$t_{d(on)}$		12	20		20	30	ns
		t_r		12	20		40	60	
Turn-Off Time		$t_{d(off)}$		25	40		40	60	
		t_f		10	20		15	23	
Source-Drain Reverse Recovery Time		t_{rr}		20	40		30	60	

* NS denotes parameter 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.