Si5445BDC vs. Si5445DC

Description: **P-Channel, 1.8 V (G-S) MOSFET**
Package: **1206-8 ChipFET®**
Pin Out: **Identical**

Part Number Replacements:
Si5445BDC-T1-E3 Replaces Si5445DC-T1-E3
Si5445BDC-T1 Replaces Si5445DC-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted

Parameter		Symbol	Si5445BDC	Si5445DC	Unit
Drain-Source Voltage		V_{DS}	- 8	- 8	V
Gate-Source Voltage		V_{GS}	± 8	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	- 7.1	- 7.1	A
	T_A = 70 °C		- 5.2	- 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	Si5445BDC			Si5445DC			Unit
			Min	Typ	Max	Min	Typ	Max	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.45		- 1.0	- 0.45		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	$r_{DS(on)}$		0.027	0.033		0.030	0.035	Ω
	V_{GS} = - 2.5 V			0.035	0.043		0.040	0.047	
	V_{GS} = - 1.8 V			0.050	0.060		0.052	0.062	
Forward Transconductance		g_{fs}		18			18		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.8	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		14	21		17	26	nC
Gate-Source Charge		Q_{gs}		1.8			2.8		
Gate-Drain Charge		Q_{gd}		3.3			2.6		
Gate Resistance		R_g		8			NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		12	20		15	25	ns
		t_r		22	35		45	70	
Turn-Off Time		$t_{d(off)}$		75	115		110	165	
		t_f		50	75		65	100	
Source-Drain Reverse Recovery Time		t_{rr}		75	115		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.