



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-E3 Replaces Si5445DC-T1

Summary of Performance:

The Si5445BDC is the replacement to the original Si5445DC; both parts perform identically, including limits to the parametric tables below.

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 & Storage Temperature Range		T _J & 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	