



Si5402BDC vs. Si5402DC

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

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

Summary of Performance:

The Si5402BDC is the replacement to the original Si5402DC; both parts perform identically, including limits to the parametric tables below.

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 & 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	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	