



Si7892BDP vs. Si7892DP

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

Part Number Replacements:

Si7892BDP-T1-E3 Replaces Si7892DP-T1-E3
 Si7892BDP-T1-E3 Replaces Si7892DP-T1

Summary of Performance:

The Si7892BDP is the replacement to the original Si7892DP; both parts perform identically, including limits to the parametric tables below.

ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	Si7892BDP	Si7892DP	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	25	25	A
	T _A = 70°C		20	20	
Pulsed Drain Current		I _{DM}	60	60	
Continuous Source Current (MOSFET Diode Conduction)		I _S	4.1	4.5	
Avalanche Current	L = 0.1 mH	I _{AS}	40	50	
Power Dissipation	T _A = 25°C	P _D	5	5.4	W
	T _A = 70°C		3.2	3.4	
Operating Junction & Storage Temperature Range		T _J & T _{stg}	-55 to 150	-55 to 150	°C
Maximum Junction-to-Ambient		R _{thJA}	25	23	°C/W

SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED)									
Parameter	Symbol	Si7892BDP			Si7892DP			Unit	
		Min	Typ	Max	Min	Typ	Max		
Static									
Gate-Threshold Voltage	V _{GS(th)}	1.0		3.0	1.0		3.0	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)}	30			30			A	
Drain-Source On-Resistance	V _{GS} = 10 V r _{DS(on)}		0.0034	0.0042		0.0037	0.0045	Ω	
	V _{GS} = 4.5 V		0.0047	0.0057		0.0048	0.006		
Forward Transconductance	g _{fs}		85			80		S	
Diode Forward Voltage	V _{SD}		0.75	1.2		0.75	1.2	V	
Dynamic									
Input Capacitance	C _{iss}		3775			NS		pF	
Output Capacitance	C _{oss}		630			NS			
Reverse Transfer Capacitance	C _{rss}		295			NS			
Total Gate Charge	Q _g		27	40		25	35	nC	
Gate-Source Charge	Q _{gs}		11.4			6.7			
Gate-Drain Charge	Q _{gd}		8.1			9.7			
Gate Resistance	R _g	0.5	1.2	2.0	0.5	NS	2.4	Ω	
Switching									
Turn-On Time*	t _{d(on)}		20	30		17	30	ns	
	t _r		13	20		10	20		
Turn-Off Time*	t _{d(off)}		62	100		65	130		
	t _f		20	35		35	60		
Source-Drain Reverse Recovery Time	t _{rr}		40	60		50	80		