Si7858BDP vs. Si7858ADP

Description: **N-Channel, 12 V (D-S) MOSFET**
Package: **PowerPAK® SO-8**
Pin Out: **Identical**

Part Number Replacements: Si7858BDP-T1-GE3 replaces Si7858ADP-T1-GE3
Si7858BDP-T1-GE3 replaces Si7858ADP-T1-GE3

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si7858BDP**	**Si7858ADP**	**UNIT**
Drain-Source Voltage		V_{DS}	12	12	V
Gate-Source Voltage		V_{GS}	± 8	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	33	29	A
	T_A = 70 °C		26	23	
Pulsed Drain Current		I_{DM}	70	60	
Continuous Source Current (MOSFET Diode Conduction)		I_S	4.5	4.5	
Power Dissipation	T_A = 25 °C	P_D	5.0	5.4	W
	T_A = 70 °C		3.2	3.4	
Operating Junction and Storage Temperature Range		T_J and 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									
			Si7858BDP			**Si7858ADP**			
PARAMETER		**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	0.4		1.0	0.6	0.95	1.5	V
Gate-Body Leakage		I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current		I_{DSS}			1.0			1.0	µA
On-State Drain Current	V_{GS} = 4.5 V	$I_{D(on)}$	20			30			A
Drain-Source On-Resistance	V_{GS} = 4.5 V	$R_{DS(on)}$		0.0020	0.0025		0.0020	0.0026	Ω
	V_{GS} = 2.5 V			0.0023	0.0030		0.0029	0.0037	
	V_{GS} = 1.8 V			0.0029	0.0037		NS	NS	
Forward Transconductance		g_{fs}		105			130		S
Diode Forward Voltage		V_{SD}		0.62	1.1		0.75	1.1	V
Dynamic									
Total Gate Charge		Q_g		56	84		54	80	nC
Gate-Source Charge		Q_{gs}		5.9			10		
Gate-Drain Charge		Q_{gd}		12.5			16		
Gate Resistance		R_g	0.2	0.65	1.3	0.5	1.2	2	Ω

Note
NS denotes not specified in the original specification

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.