Si2305ADS vs. Si2305DS

Description: **P-Channel, 8-V (D-S) MOSFET**
Package: **SOT-23**
Pin Out: **Identical**

Part Number Replacements: Si2305ADS-T1-E3 replaces Si2305DS-T1-E3
Si2305ADS-T1 replaces Si2305DS-T1

Summary of Performance:

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si2305ADS**	**Si2305DS**	**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	- 4.1	- 3.5	A
	T_A = 70 °C		- 3.3	- 2.8	
Pulsed Drain Current		I_{DM}	- 10	- 12	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 0.8	- 1.6	
Power Dissipation	T_A = 25 °C	P_D	0.96	1.25	W
	T_A = 70 °C		0.62	0.8	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	130	100	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
PARAMETER		**SYMBOL**	**Si2305ADS**			**Si2305DS**			**UNIT**
			MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.45		- 0.8	- 0.45		- 0.80	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	$I_{D(on)}$	- 5			- 6			A
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$r_{DS(on)}$		0.032	0.040		0.044	0.052	Ω
	V_{GS} = - 2.5 V			0.048	0.060		0.060	0.071	
	V_{GS} = - 1.8 V			0.070	0.088		0.087	0.108	
Forward Transconductance		g_{fs}		8			8.5		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		NS	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		7.8	15		10	15	nC
Gate-Source Charge		Q_{gs}		1.2			2		
Gate-Drain Charge		Q_{gd}		1.6			2		

Note
NS denotes not specified in original datasheet

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.