Si2309CDS vs. Si2309DS

Description: **P-Channel, 60-V (D-S) MOSFET**
Package: **SOT-23**
Pin Out: **Identical**

Part Number Replacements: Si2309CDS-T1-GE3 replaces Si2309DS-T1-GE3
Si2309CDS-T1-E3 or Si2309CDS-T1-GE3 replaces Si2309DS-T1
Si2309CDS-T1-E3 or Si2309CDS-T1-GE3 replaces Si2309DS-T1-E3

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si2309CDS**	**Si2309DS**	**UNIT**
Drain-Source Voltage		V_{DS}	- 60	- 60	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current	T_A = 25 °C	I_D	- 1.2	- 1.25	A
	T_A = 70 °C		- 1.0	- 0.85	
Pulsed Drain Current		I_{DM}	- 8	- 8	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 0.9	- 1.25	
Maximum Power Dissipation	T_A = 25 °C	P_D	1.0	1.25	W
	T_A = 70 °C		0.67	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}	120	100	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
			Si2309CDS			**Si2309DS**			
PARAMETER		**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 1		- 3	- 1		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	$I_{D(on)}$	- 6			- 6			A
Drain-Source On-Resistance	V_{GS} = - 10 V	$R_{DS(on)}$		0.285	0.345		0.275	0.340	Ω
	V_{GS} = - 4.5 V			0.360	0.450		0.406	0.550	
Forward Transconductance		g_{fs}		2.8			1.9		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.82	- 1.2	V
Dynamic									
Total Charge[a]		Q_g		2.7	4.1		5.4	12	nC
Gate-Source Charge		Q_{gs}		0.8			1.15		
Gate-Drain Charge		Q_{gd}		1.2			0.92		

Note
NS denotes not specified in original specification

a. V_{GS} = - 4.5 V for Si2309CDS; V_{GS} = - 10 V for Si2309DS

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.