



Si2307CDS vs. Si2307DS

Description: Single P-Channel, MOSFET**Package:** SOT-23**Pin Out:** Identical**Part Number Replacements:** Si2307CDS-T1-E3 or Si2307CDS-T1-GE3 replaces Si2307DS-T1
Si2307CDS-T1-E3 or Si2307CDS-T1-GE3 replaces Si2307DS-T1-E3

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted					
PARAMETER		SYMBOL	Si2307CDS	Si2307DS	UNIT
Drain-Source Voltage		V_{DS}	- 30	- 30	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	- 2.7	- 3	A
	$T_A = 70\text{ }^\circ\text{C}$		- 2.2	- 2.5	
Pulsed Drain Current		I_{DM}	- 12	- 12	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 0.91	- 1.25	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	1.1	1.25	W
	$T_A = 70\text{ }^\circ\text{C}$		0.7	0.8	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient		R_{thJA}	115	100	$^\circ\text{C/W}$

SPECIFICATIONS T _J = 25 °C, unless otherwise noted									
PARAMETER		SYMBOL	Si2307CDS			Si2307DS			UNIT
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static									
Gate-Threshold Voltage		V _{GS(th)}	- 1		- 3	- 1		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)}		0.073	0.088		0.064	0.08	Ω
	V _{GS} = - 4.5 V			0.110	0.138		0.103	0.14	
Forward Transconductance		g _{fs}		7			4.5	S	
Diode Forward Voltage		V _{SD}		- 0.8	- 1.2		NS	- 1.2	V
Dynamic									
Input Capacitance		C _{iss}		340			565		pF
Output Capacitance		C _{oss}		67			126		
Reverse Transfer Capacitance		C _{rss}		51			75		
Gate Charge		Q _g		4.1	6.2		5		nC
Gate-Source Charge		Q _{gs}		1.3			1.9		
Gate-Drain Charge		Q _{gd}		1.8			2		
Gate Resistance		R _g		10			NS		

Notes

NS denotes not specified in 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.