



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	$T_A = 25\text{ }^\circ\text{C}$	- 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	$T_A = 25\text{ }^\circ\text{C}$	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 $T_J = 25\text{ }^\circ\text{C}$, 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	$V_{GS} = - 10\text{ V}$ $I_{D(on)}$	- 6			- 6			A
Drain-Source On-Resistance	$V_{GS} = - 10\text{ V}$ $R_{DS(on)}$		0.073	0.088		0.064	0.08	Ω
	$V_{GS} = - 4.5\text{ V}$		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		Ω

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.