



## Si2307CDS vs. Si2307BDS

**Description:** P-Channel, 30-V (D-S) MOSFET

**Package:** SOT-23

**Pin Out:** Identical

**Part Number Replacements:** Si2307CDS-T1-GE3 replaces Si2307BDS-T1-GE3

Si2307CDS-T1-GE3 replaces Si2307BDS-T1-E3

<b>ABSOLUTE MAXIMUM RATINGS</b> $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise noted					
PARAMETER	SYMBOL	Si2307CDS	Si2307BDS	UNIT	
Drain-Source Voltage	$V_{DS}$	- 30	- 30	V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$	$\pm 20$		
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	$I_D$	- 2.7	- 3.2	A
	$T_A = 70\text{ }^\circ\text{C}$		- 2.2	- 2.6	
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	115	$^\circ\text{C/W}$	

<b>SPECIFICATIONS</b> $T_J = 25\text{ }^\circ\text{C}$ , unless otherwise noted								
PARAMETER	SYMBOL	Si2307CDS			Si2307BDS			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
<b>Static</b>								
Gate-Threshold Voltage	$V_{GS(th)}$	- 1.0		- 3.0	- 1.0		- 3.0	V
Gate-Body Leakage	$I_{GSS}$			$\pm 100$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$			- 1			- 1	$\mu\text{A}$
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		0.063	0.078	$\Omega$
	$V_{GS} = - 4.5\text{ V}$		0.110	0.138		0.105	0.130	
Forward Transconductance	$g_{fs}$		7.0			5.0		S
Diode Forward Voltage	$V_{SD}$		- 0.8	- 1.2		- 0.85	- 1.2	V
<b>Dynamic</b>								
Total Charge <sup>a</sup>	$Q_g^a$		4.1	6.2		9	15	nC
Gate-Source Charge	$Q_{gs}$		1.3			1.4		
Gate-Drain Charge	$Q_{gd}$		1.8			2.4		
Gate Resistance	$R_g$		10			8		$\Omega$

**Note**

a.  $V_{GS} = - 4.5\text{ V}$  for the Si2307CDS; - 10 V for the Si2307BDS.

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.