Si2301CDS vs. Si2301BDS

Description: **P-Channel, 20-V (D-S) MOSFET**
Package: **SOT-23**
Pin Out: **Identical**

Part Number Replacements: Si2301CDS-T1-GE3 replaces Si2301BDS-T1-GE3
Si2301CDS-T1-E3 replaces Si2301BDS-T1-E3
Si2301CDS-T1-GE3 or Si2301CDS-T1-E3 replaces Si2301BDS-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si2301CDS**	**Si2301BDS**	**UNIT**
Drain-Source Voltage		V_{DS}	- 20	- 20	V
Gate-Source Voltage		V_{GS}	± 8	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	- 2.3	- 2.4	A
	T_A = 70 °C		- 1.8	- 1.9	
Pulsed Drain Current		I_{DM}	- 10	- 10	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 0.72	- 0.72	
Power Dissipation	T_A = 25 °C	P_D	0.86	0.9	W
	T_A = 70 °C		0.55	0.57	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	145	145	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
			Si2301CDS			**Si2301BDS**			
PARAMETER		**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.40		- 1.0	- 0.45		- 0.95	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	$I_{D(on)}$	- 6			- 6			A
	V_{GS} = - 2.5 V		NS			- 3			
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$R_{DS(on)}$		0.090	0.112		0.080	0.100	Ω
	V_{GS} = - 2.5 V			0.110	0.142		0.110	0.150	
Forward Transconductance		g_{fs}		2			6.5		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.8	- 1.2	V
Dynamic									
Total Charge		Q_g		5.5	10		4.5	10	nC
Gate-Source Charge		Q_{gs}		0.7			0.7		
Gate-Drain Charge		Q_{gd}		1.3			1.1		

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.