



## Si2333CDS vs. Si2315BDS

**Description:** P-Channel, 12-V (D-S) MOSFET

**Package:** SOT-23

**Pin Out:** Identical

**Part Number Replacements:** Si2333CDS-T1-GE3 replaces Si2315BDS-T1-GE3  
Si2333CDS-T1-E3 or Si2333CDS-T1-GE3 replaces Si2315BDS-T1-E3  
Si2333CDS-T1-E3 or Si2333CDS-T1-GE3 replaces Si2315BDS-T1

<b>ABSOLUTE MAXIMUM RATINGS</b> $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise noted					
PARAMETER		SYMBOL	Si2333CDS	Si2315BDS	UNIT
Drain-Source Voltage		$V_{DS}$	- 12	- 12	V
Gate-Source Voltage		$V_{GS}$	$\pm 8$	$\pm 8$	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	$I_D$	- 5.1	- 3.85	A
	$T_A = 70\text{ }^\circ\text{C}$		- 4.0	- 3.0	
Pulsed Drain Current		$I_{DM}$	- 20	- 12	
Continuous Source Current (MOSFET Diode Conduction)		$I_S$	- 0.63	- 1.0	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	$P_D$	1.25	1.19	W
	$T_A = 70\text{ }^\circ\text{C}$		0.8	0.76	
Operating Junction and Storage Temperature Range		$T_J$ and $T_{stg}$	- 55 to 150	- 55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient		$R_{thJA}$	100	105	$^\circ\text{C/W}$

<b>SPECIFICATIONS</b> $T_J = 25\text{ }^\circ\text{C}$ , unless otherwise noted									
PARAMETER	SYMBOL	Si2333CDS			Si2315BDS			UNIT	
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
<b>Static</b>									
Gate-Threshold Voltage	$V_{GS(th)}$	- 0.40		- 1.0	- 0.45		- 0.9	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	$V_{GS} = 4.5\text{ V}$ $I_{D(on)}$	- 20			- 6			A	
Drain-Source On-Resistance	$V_{GS} = - 4.5\text{ V}$	$R_{DS(on)}$		0.0285	0.035		0.040	0.050	$\Omega$
	$V_{GS} = - 2.5\text{ V}$			0.036	0.045		0.050	0.065	
	$V_{GS} = - 1.8\text{ V}$			0.046	0.059		0.071	0.100	
Forward Transconductance	$g_{fs}$		1.6			7		S	
Diode Forward Voltage	$V_{SD}$		- 0.7	- 1.2		NS	- 1.2	V	
<b>Dynamic</b>									
Total Charge	$Q_g$		15	25		8	15	nC	
Gate-Source Charge	$Q_{gs}$		1.9			1.1			
Gate-Drain Charge	$Q_{gd}$		3.8			2.3			

**Note**

NS denotes not specified in original specification

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.