Si9933CDY vs. Si9933BDY

Description: **Dual P-Channel, 20-V (D-S) MOSFET**
Package: **SO-8**
Pin Out: **Identical**

Part Number Replacements: Si9933CDY-T1-E3 replaces Si9933BDY-T1-E3

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si9933CDY**	**Si9933BDY**	**UNIT**
Drain-Source Voltage		V_{DS}	- 20	- 20	V
Gate-Source Voltage		V_{GS}	± 12	± 12	
Continuous Drain Current	T_A = 25 °C	I_D	- 4.0	- 4.7	A
	T_A = 70 °C		- 3.8	- 3.8	
Pulsed Drain Current		I_{DM}	- 20	- 20	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 1.7	- 1.7	
Power Dissipation	T_A = 25 °C	P_D	2.0	2.0	W
	T_A = 70 °C		1.28	1.3	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	62.5	62.5	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
PARAMETER		**SYMBOL**	**Si9933CDY**			**Si9933BDY**			**UNIT**
			MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.6		- 1.4	- 0.6		- 1.4	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	$I_{D(on)}$	- 20			- 20[a]			A
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$R_{DS(on)}$		0.048	0.058		0.048	0.06	Ω
	V_{GS} = - 2.5 V			0.075	0.094		0.080	0.100	
Forward Transconductance		g_{fs}		11			11		S
Diode Forward Voltage		V_{SD}		- 0.77	- 1.2		- 0.75	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		8	12		6	9	nC
Gate-Source Charge		Q_{gs}		2			1.4		
Gate-Drain Charge		Q_{gd}		3			1.9		
Gate Resistance		R_g	1.2	6	12		9.5		Ω

Notes
NS denotes not specified in original datasheet
a. V_{GS} = - 4.5 V

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.