Si5853DDC vs. Si5853CDC

Description: **P-Channel, 20-V (D-S) MOSFET with Schottky Diode**
Package: **1206-8 ChipFET®**
Pin Out: **Identical**

Part Number Replacements: Si5853DDC-T1-E3 replaces Si5853CDC-T1-E3

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si5853DDC**	**Si5853CDC**	**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	- 2.9	- 2.9	A
	T_A = 70 °C		- 2.3	- 2.3	
Pulsed Drain Current		I_{DM}	- 10	- 10	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 1.1	- 1.2	
Power Dissipation	T_A = 25 °C	P_D	1.3	1.5	W
	T_A = 70 °C		0.8	0.9	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	95	85	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
			Si5853DDC			**Si5853CDC**			
PARAMETER		**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.4		- 1.0	- 0.45		- 1.0	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	$I_{D(on)}$	- 10			- 10			A
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$R_{DS(on)}$		0.085	0.105		0.086	0.104	Ω
	V_{GS} = - 2.5 V			0.117	0.143		0.120	0.144	
	V_{GS} = - 1.8 V			0.155	0.188		0.170	0.205	
Forward Transconductance		g_{fs}		7			6		S
Diode Forward Voltage		V_{SD}		- 0.85	- 1.2		- 0.8	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		4.7	7.1		4.2	6.5	nC
Gate-Source Charge		Q_{gs}		0.65			0.7		
Gate-Drain Charge		Q_{gd}		1.35			1.0		
Gate Resistance		R_g		6.5			6.2		Ω

SCHOTTKY SPECIFICATIONS T_J = 25 °C, unless otherwise noted								
		Si5853DDC			**Si5853CDC**			
PARAMETER	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward Voltage Drop	V_F		0.468	0.560		0.468	0.560	V
Maximum Reverse Leakage Current	I_{rm}		0.0081	0.080		0.0081	0.080	mA
Junction Capacitance	C_T		30			30		pF

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.