Si5855CDC vs. Si5855DC

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

Part Number Replacements: Si5855CDC-T1-E3 replaces Si5855DC-T1-E3
Si5855CDC-T1-E3 replaces Si5855DC-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si5855CDC**	**Si5855DC**	**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	- 2.5	- 3.6	A
	T_A = 85 °C		- 2.0[a]	- 2.6	
Pulsed Drain Current		I_{DM}	- 10	- 10	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 1.1	- 1.8	
Power Dissipation	T_A = 25 °C	P_D	1.3	2.1	W
	T_A = 85 °C		0.8[a]	1.1	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	99	60	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
PARAMETER		**SYMBOL**	**Si5855CDC**			**Si5855DC**			**UNIT**
			MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.45		- 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	$R_{DS(on)}$		0.120	0.144		0.095	0.110	Ω
	V_{GS} = - 2.5 V			0.150	0.180		0.137	0.160	
	V_{GS} = - 1.8 V			0.185	0.222		0.205	0.240	
Forward Transconductance		g_{fs}		18			7		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.8	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		4.1	6.2		5.1	7.7	nC
Gate-Source Charge		Q_{gs}		0.6			1.2		
Gate-Drain Charge		Q_{gd}		1.0			1.0		
Gate Resistance		R_g	1.1	5.5	11		NS		Ω

SCHOTTKY SPECIFICATIONS T_J = 25 °C, unless otherwise noted								
PARAMETER	**SYMBOL**	**Si5855CDC**			**Si5855DC**			**UNIT**
		MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Forward Voltage Drop	V_F		0.34	0.375		0.34	0.375	V
Maximum Reverse Leakage Current	I_{rm}		0.05	0.500		0.05	0.500	mA
Junction Capacitance	C_T		90			90		pF

Note

a. T_A = 70 °C, not 85 °C.

NS denotes not specified on original datasheet.

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.