Si1553CDL vs. Si1553DL

Description: **N- and P-channel 20 V (D-S) MOSFETs**
Package: **SC-70**
Pin Out: **Identical**

Part Number Replacements: Si1553CDL-T1-GE3 Replaces Si1553DL-T1-E3
Si1553CDL-T1-GE3 Replaces Si1553DL-T1-GE3

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)						
PARAMETER		**SYMBOL**		**Si1553CDL**	**Si1553DL**	**UNIT**
Drain-Source Voltage		V_{DS}	N-Ch	20	20	V
			P-Ch	- 20	- 20	
Gate-Source Voltage		V_{GS}	N-Ch	± 12	± 12	
			P-Ch			
Continuous Drain Current	T_A = 25 °C	I_D	N-Ch	0.7	0.7	A
			P-Ch	- 0.4	- 0.44	
	T_A = 70 °C		N-Ch	0.5	0.5[1]	
			P-Ch	- 0.4	- 0.31[1]	
Pulsed Drain Current		I_{DM}	N-Ch	2	± 1	
			P-Ch	- 1		
Continuous Source Current (MOSFET Diode Conduction)		I_S	N-Ch	0.2	0.25	
			P-Ch	- 0.2	- 0.25	
Power Dissipation	T_A = 25 °C	P_D		0.29	0.30	W
	T_A = 70 °C			0.18	0.16[1]	
Operating Junction and Storage Temperature Range		T_i, T_{stg}		- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}		438	415	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)										
				Si1553CDL			**Si1553DL**			
PARAMETER		**SYMBOL**		**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static										
Gate-Threshold Voltage		$V_{GS(th)}$	N-Ch	0.6	-	1.5	0.6	-	-	V
			P-Ch	- 0.6	-	- 1.5	- 0.6	-	-	
Gate-Body Leakage		I_{GSS}	N-Ch	-	-	± 100	-	-	± 100	nA
			P-Ch	-	-	± 100	-	-	± 100	
Zero Gate Voltage Drain Current		I_{DSS}	N-Ch	-	-	1	-	-	1	µA
			P-Ch	-	-	- 1	-	-	- 1	
On-State Drain Current	V_{GS} = 4.5 V	$I_{D(on)}$	N-Ch	2[2]	-	-	- 1	-	-	A
	V_{GS} = - 4.5 V		P-Ch	- 1[2]	-	-	- 1	-	-	
Drain-Source On-Resistance	V_{GS} = 4.5 V	$R_{DS(on)}$	N-Ch	-	0.325	0.390	-	0.320	0.385	Ω
	V_{GS} = - 4.5 V		P-Ch	-	0.708	0.850	-	0.850	0.995	
	V_{GS} = 2.7V		N-Ch	-	0.425	0.510	-	NS	NS	
	V_{GS} = - 2.7 V		P-Ch	-	1.13	1.35	-	NS	NS	
	V_{GS} = 2.5 V		N-Ch	-	0.462	0.578	-	0.560	0.630	
	V_{GS} = - 2.5 V		P-CH	-	1.23	1.48	-	1.40	1.80	
Forward Transconductance		g_{fs}	N-Ch	-	1.5	-	-	1.5	-	S
			P-Ch	-	0.8	-	-	0.8	-	
Diode Forward Voltage		V_{SD}	N-Ch	-	0.8	1.2	-	0.8	1.2	V
			P-Ch	-	- 0.8	- 1.2	-	- 0.8	- 1.2	

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
			Si1553CDL			Si1553DL			
PARAMETER	**SYMBOL**		**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Dynamic									
Total Gate Charge	Q_g	N-Ch	-	0.55	1.1	-	0.8	1.2	nC
		P-Ch	-	0.95	1.5	-	1.2	1.8	
Gate-Source Charge	Q_{gs}	N-Ch	-	0.15	-	-	0.06	-	
		P-Ch	-	0.25	-	-	0.45	-	
Gate-Drain Charge	Q_{gd}	N-Ch	-	0.15	-	-	0.30	-	
		P-Ch	-	0.25	-	-	0.25	-	
Gate Resistance	R_g	N-Ch	1.5	7.2	14.4	-	NS	NS	Ω
		P-Ch	2.1	10.3	20.6	-	NS	NS	

Notes

- NS denotes parameter not specified in original datasheet

(1) T_A = 85 °C
(2) V_{GS} = ± 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.