



Si3585CDV vs. Si3585DV

Description: N- and P-Channel 20 V (D-S) MOSFETs

Package: TSOP-6

Pin Out: Identical

Part Number Replacements: Si3585CDV-T1-GE3 replaces Si3585DV-T1-E3
Si3585CDV-T1-GE3 replaces Si3585DV-T1-GE3

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)					
PARAMETER		SYMBOL	Si3585CDV	Si3585DV	UNIT
Drain-Source Voltage		V_{DS}	N-CH	20	V
			P-CH	-20	
Gate-Source Voltage		V_{GS}	N-CH	± 12	V
			P-CH		
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	N-CH	3.5	A
			P-CH	-1.9	
	$T_A = 70\text{ }^\circ\text{C}$		N-CH	2.8	
			P-CH	-1.5	
Pulsed Drain Current		I_{DM}	N-CH	12	W
			P-CH	-5	
Continuous Source Current (MOSFET Diode Conduction)		I_S	N-CH	0.9	W
			P-CH	-0.9	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D		1.1	W
	$T_A = 70\text{ }^\circ\text{C}$			0.7	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	-55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient		R_{thJA}		110	$^\circ\text{C/W}$
				115	

SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)										
PARAMETER	SYMBOL		Si3585CDV			Si3585DV			UNIT	
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Static										
Gate-Threshold Voltage	$V_{GS(th)}$	N-CH	0.6	-	1.5	0.6	-	-	V	
		P-CH	-0.6	-	-1.5	-0.5	-	-		
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	$V_{GS} = 4.5\text{ V}$	$I_{D(on)}$	N-CH	12	-	-	5	-	A	
	$V_{GS} = -4.5\text{ V}$		P-CH	-5	-	-	-5	-		
Drain-Source On-Resistance	$V_{GS} = 4.5\text{ V}$	$R_{DS(on)}$	N-CH	-	0.048	0.058	-	0.100	0.125	Ω
	$V_{GS} = -4.5\text{ V}$		P-CH	-	0.162	0.195	-	0.160	0.200	
	$V_{GS} = 2.5\text{ V}$		N-CH	-	0.065	0.078	-	0.160	0.200	
	$V_{GS} = -2.5\text{ V}$		P-CH	-	0.263	0.316	-	0.280	0.340	
Forward Transconductance	g_{fs}	N-CH	-	12	-	-	5	-	S	
		P-CH	-	1	-	-	3.6	-		
Diode Forward Voltage	V_{SD}	N-CH	-	0.8	1.2	-	0.80	1.1	V	
		P-CH	-	-0.8	-1.2	-	-0.83	-1.1		

Specification Comparison

Vishay Siliconix



SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)									
PARAMETER	SYMBOL		Si3585CDV			Si3585DV			UNIT
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Dynamic									
Total Gate Charge	Q_g	N-CH	-	1.6	2.4	-	2.1	3.2	nC
		P-CH	-	2.9	4.3	-	2.7	4.0	
Gate-Source Charge	Q_{gs}	N-CH	-	0.3	-	-	0.3	-	
		P-CH	-	0.6	-	-	0.4	-	
Gate-Drain Charge	Q_{gd}	N-CH	-	0.4	-	-	0.4	-	
		P-CH	-	0.9	-	-	0.6	-	
Gate Resistance	R_g	N-CH	0.9	4.8	9.6	-	NS	-	Ω
		P-CH	1.2	6.2	12.4	-	NS	-	

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.