

Preliminary Data Sheet Supplement

Subject:	Additional Information for Version G12
Data Sheet Concerned:	MAS 3507D 6251-459-3PD, Edition March 16, 2000
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Additional Information for Version G12:

For the MAS 3507D-G12, the following specification replaces that of the MAS 3507D Preliminary Data Sheet (6251-459-3PD, Section 4.2.4.5.)

DC/DC Converter Characteristics

at $T_A = -30$ to 85 °C, $V_{SUP} = 3.0$ V, $CLK_F = 14.725$ MHz, $f_{SW} = 230$ kHz, typ. values at $T_A = +27$ °C.

Unless otherwise noted: $V_{OUT} = 3.0$ V, $V_{IN} = 1.2$ V

Symbol	Parameter	Pin Name	Min.	Typ.	Max.	Unit	Test Conditions
V_{IN1}	Minimum Start-Up Input Voltage	*		0.9	1.1	V	$I_{LOAD} = 0$ mA DCCF = \$08000 (Reset)
V_{IN2}	Minimum Operating Input Voltage (* see Figure 2-3)	*		0.6	0.9	V	$I_{LOAD} = 55$ mA, DCCF = \$08000 (Reset)
				1.3	1.8	V	$I_{LOAD} = 250$ mA, DCCF = \$08000 (Reset)
V_{OUT}	Prg. Output Voltage Range	VSNS	2.0 ¹⁾		3.5	V	2)
V_{OTOL}	Output Voltage Tolerance	VSNS	-3,6		3,6	%	$I_{LOAD} = 50$ mA $T_J = 27$ °C
I_{LOAD1}	Output Curr	VS			150	mA	$V_{IN} = 0.9...1,5$ V
I_{LOAD2}					250	mA	$V_{IN} = 1.8...3.0$ V
$dV_{OUT}/dV_{IN}/V_{OUT}$	Line Regulation	VSNS		0.35		%/V	$I_{LOAD} = 50$ mA
$dV_{OUT}/dV_{IN}/V_{OUT}$	Load Regulation	VSNS		0.7		%/V	$I_{LOAD} = 250$ mA, $V_{OUT} = 3.5$ V, $V_{IN} = 2.4$ V
dV_{OUT}/V_{OUT}	Load Regulation			-0.5		%	$I_{LOAD} = 50...150$ mA
dV_{OUT}/V_{OUT}	Load Regulation			-0.5		%	$I_{LOAD} = 50...250$ mA, $V_{OUT} = 3.5$ V, $V_{IN} = 2.4$ V
η_{max}	Maximum Efficiency			90		%	$V_{IN} = 3.0$ V, $V_{OUT} = 3.5$ V
I_{SUPPLY}	Supply Current	VSNS		1.1	5	mA	$V_{IN} = 3.0$ V, $I_{LOAD} = 0$, includ. switch current
$I_{L,MAX}$	Inductor Current Limit	DCSO, DCSG		1.0	1.4	A	
R_{ON}	Switch On-Resistance	DCSO, DCSG		0.4		Ω	$T_J = 27$ °C
I_{LEAK}	Switch Leakage Current	DCSO, DCSG		0.1	1	μ A	$T_J = 27$ °C, converter = off; $I_{LOAD} = 0$ μ A
f_{SW}	Switch Frequency	DCSO, DCSG	156	230	460	kHz	Depending on DCCF
t_{START}	Start Up Time to PUP-Enable	DCEN, PUP		8		ms	$V_{IN} = 1.0$ V, $I_{LOAD} = 1$ mA, PUPLIM = 010 (Reset)
$f_{STARTUP}$	MASF	DCSO		250		kHz	VSNS < 1.9 V

1) see MAS 3507D Preliminary Data Sheet (6251-459-3PD), Section 4.2.4.2

2) see MAS 3507D Preliminary Data Sheet (6251-459-3PD), Section 4.2.4.6

1. All measurements are made with a C8 R/4L 20 μ H, 25 m Ω ferrite ring-core coil, Zetex ZLMCS1000 Schottky diode, and Sanyo/Oscon 6SA330M 330 μ F, 25 m Ω ESR capacitors at input and output.