# 电子元器件系列(中国.厦门) China.Xiamen www.rf-china.com RF-Micom co.,Ltd

# Email:sales@rf-china.com

Telephone:0086-592-5713956 Fax:5201617

#### ABSOLUTE MAXIMUM RATINGS

Input Voltage	
5V Input Models	7V
12V Input Models	
15V Input Models	
24V Input Models	
Storage Temperature	–60°C to +125°C
Lead Temperature (soldering, 10s)	270°C

#### **ORDERING INFORMATION**

Basic Model Number: 2W Product — Voltage Input: — 5V In Voltage Output: — 5V Out Dual Output: —	DCP02	05	05 (D) (_)
Package Code: P = DIP-14 U = SO-28			

### ELECTROSTATIC DISCHARGE SENSITIVITY

This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

#### PACKAGE/ORDERING INFORMATION

		PACKAGE	SPECIFIED	DACKACE	OPDERING	TRANSPORT
PRODUCT	PACKAGE	NUMBER	RANGE	MARKING	NUMBER <sup>(1)</sup>	MEDIA
Single						
DCP020503P	DIP-14	010-1	-40°C to +85°C	DCP020503P	DCP020503P	Rails
DCP020503U	SO-28	217-2	-40°C to +85°C	DCP020503U	DCP020503U/1K	Tape and Reel
DCP020505P	DIP-14	010-1	-40°C to +85°C	DCP020505P	DCP020505P	Rails
DCP020505U	SO-28	217-2	-40°C to +85°C	DCP020505U	DCP020505U/1K	Tape and Reel
DCP020507P	DIP-14	010-1	-40°C to +85°C	DCP020507P	DCP020507P	Rails
DCP020507U	SO-28	217-2	-40°C to +85°C	DCP020507U	DCP020507U/1K	Tape and Reel
DCP020509P	DIP-14	010-1	-40°C to +85°C	DCP020509P	DCP020509P	Rails
DCP020509U	SO-28	217-2	-40°C to +85°C	DCP020509U	DCP020509U/1K	Tape and Reel
DCP021205P	DIP-14	010-1	-40°C to +85°C	DCP021205P	DCP021205P	Rails
DCP021205U	SO-28	217-2	-40°C to +85°C	DCP021205U	DCP021205U/1K	Tape and Reel
DCP021212P	DIP-14	010-1	-40°C to +85°C	DCP021212P	DCP021212P	Rails
DCP021212U	SO-28	217-2	-40°C to +85°C	DCP021212U	DCP021212U/1K	Tape and Reel
DCP021515P	DIP-14	010-1	-40°C to +85°C	DCP021515P	DCP021515P	Rails
DCP021515U	SO-28	217-2	-40°C to +85°C	DCP021515U	DCP021515U/1K	Tape and Reel
DCP022405P	DIP-14	010-1	-40°C to +85°C	DCP022405P	DCP022405P	Rails
DCP022405U	SO-28	217-2	-40°C to +85°C	DCP022405U	DCP022405U/1K	Tape and Reel
Dual						
DCP020515DP	DIP-14	010-1	-40°C to +85°C	DCP020515DP	DCP020515DP	Rails
DCP020515DU	SO-28	217-2	-40°C to +85°C	DCP020515DU	DCP020515DU/1K	Tape and Reel
DCP021212DP	DIP-14	010-1	-40°C to +85°C	DCP021212DP	DCP021212DP	Rails
DCP021212DU	SO-28	217-2	-40°C to +85°C	DCP021212DU	DCP021212DU/1K	Tape and Reel
DCP022405DP	DIP-14	010-1	-40°C to +85°C	DCP022405DP	DCP022405DP	Rails
DCP022405DU	SO-28	217-2	-40°C to +85°C	DCP022405DU	DCP022405DU/1K	Tape and Reel
DCP022415DP	DIP-14	010-1	-40°C to +85°C	DCP022415DP	DCP022415DP	Rails
DCP022415DU	SO-28	217-2	–40°C to +85°C	DCP022415DU	DCP022415DU/1K	Tape and Reel

NOTES: (1) Models with a slash (/) are available only in Tape and Reel in the quantities indicated (e.g., /1K indicates 1000 devices per reel). Ordering 1000 pieces of "DCP020503U/1K" will get a single 1000-piece Tape and Reel.

## **ELECTRICAL CHARACTERISTICS**

At T<sub>A</sub> = +25°C, unless otherwise specified.

								DCP02 SERIES						
PARAMETER						c	ONDITION	s	MIN		ТҮР	МАХ		UNITS
OUTPUT														
Power						100% Full Load		ad 50% Lood			2			W
Ripple						P Capad	$citor = 1\mu F$ ,	50% Load			20			mvp-p
INPUT	1								-10			10		%
	•5								10			10	_	70
Voltage						1	s Flash Te	st	1					kVrms
, and the second s						60s	Test, UL19	50 <sup>(1)</sup>	1					kVrms
LINE														
Regulation											1			%/1% of $\rm V_S$
SWITCHING/SYNC	HRONIZ	ATION												
Oscillator Frequenc	y (f <sub>osc</sub> )					Switching	g Frequency	$f = f_{OSC}/2$	0		800	0.4		kHz
Sync Input Current						`	$V_{\text{SYNC}} = +2^{1}$	V	0		75	0.4		μA
Disable Time							51110				2			μs
Capacitance Loadin	ig on Sy	nc Pin					External					10		pF
RELIABILITY														
Demonstrated							$T_A = +55^{\circ}C$	;	75					FITS
THERMAL SHUTDOWN											150			
IC Temperature at Shutdown									150 3			°C mA		
									-		_			
Operating						-40			+85		°C			
		INPUT			OUTPU	г	LC	DAD	NO LOAI	)				BARRIER
VOLTAGE (V) VOLT		LTAGE	(V)	REGULA	TION (%)	CURRENT (	mA)	EFFICIE	ENCY (%)	CA	PACITANCE (pF)			
		٧s		V <sub>NOM</sub>				Ι <sub>Q</sub>					CISO	
			1	75% LOAD <sup>(2)</sup>		10% TO 1	00% LOAD	0% LOAI	2	100%	LOAD	<u>'</u>	$V_{\rm ISO} = 750 V_{\rm RMS}$	
PRODUCT	MIN	TYP	MAX	MIN	TYP	MAX	TYP	MAX	TYP		Т	YP		ТҮР
DCP020503P, U	4.5	5	5.5	3.13	3.3	3.46	19	30	18		· ·	74		26
DCP020505P, U	4.5	5	5.5	4.75	5	5.25	14	20	18			80		22
DCP020507P, U	4.5	5	5.5	6.65	7	7.35	14	25	20		81			30
DCP020509P, U 4.5 5 5.5 8.55 9		9	9.45	12	20	23		82			31			
DCP020515DP, U 4.5 5 5.5 ±14.25 ±1		±15	±15.75	11	20	27		85			24			
DCP021205P, U 10.8 12 13.2 4.75		5	5.25	7	15	14		83			33			
DCP021212P, U	10.8	12	13.2	11.4	12	12.6	7	20	15			87		47
DCP021212DP, U	10.8	12	13.2	±11.4	±12	±12.6	6	20	16		'	88		35
DCP021515P, U	13.5	15	16.5	14.25	15	15.75	6	20	15			88		42
DCP022405P	21.6	24	26.4	4.85	5	5.35	6	10	13			81		33
DCP022405U	21.6	24	26.4	4.75	5	5.25	10	15	13		'	81		33
DCP022405DP, U	21.6	24	26.4	±4.75	±5	±5.25	6	15	12		'	80		22
DCP022415DP, U	21.6	24	26.4	±14.25	±15	±15.75	6	25	16		· ·	79		44

NOTES: (1) During UL1950 recognition tests only. (2) 100% Load Current =  $2W/V_{NOM}$  TYP.

#### PIN CONFIGURATION (Single-DIP)



#### **PIN DEFINITION (Single-DIP)**

PIN #	PIN NAME	DESCRIPTION
1	Vs	Voltage Input
2	οv	Input Side Common
5	0V	Output Side Common
6	+V <sub>OUT</sub>	+Voltage Out
7	NC	Not Connected
8	NC	Not Connected
14	SYNC	Synchronization Pin

#### PIN CONFIGURATION (Single-SO)



#### **PIN DEFINITION (Single-SO)**

PIN #	PIN NAME	DESCRIPTION
1	Vs	Voltage Input
2	0V	Input Side Common
3	0V	Input Side Common
12	0V	Output Side Common
13	+V <sub>OUT</sub>	+Voltage Out
14	NC	Not Connected
15	NC	Not Connected
16	NC	Not Connected
17	NC	Not Connected
26	NC	Not Connected
27	NC	Not Connected
28	SYNC	Synchronization Pin

#### PIN CONFIGURATION (Dual-DIP)



#### **PIN DEFINITION (Dual-DIP)**

PIN NAME	DESCRIPTION
٧s	Voltage Input
οΫ	Input Side Common
0V	Output Side Common
+V <sub>OUT</sub>	+Voltage Out
-V <sub>OUT</sub>	-Voltage Out
NC	Not Connected
SYNC	Synchronization Pin
	Vs       0V       0V       -Vout       -Vout       NC       SYNC

#### **PIN CONFIGURATION (Dual-SO)**



#### **PIN DEFINITION (Dual-SO)**

PIN #	PIN NAME	DESCRIPTION
1	Vs	Voltage Input
2	0V	Input Side Common
3	0V	Input Side Common
12	0V	Output Side Common
13	+V <sub>OUT</sub>	+Voltage Out
14	-V <sub>OUT</sub>	-Voltage Out
15	NC	Not Connected
16	NC	Not Connected
17	NC	Not Connected
26	NC	Not Connected
27	NC	Not Connected
28	SYNC	Synchronization Pin

#### **PACKAGING INFORMATION**

ORDERABLE DEVICE	STATUS(1)	US(1) PACKAGE TYPE PACKAGE DRAWING		PINS	PACKAGE QTY
DCP020503P	ACTIVE	PDIP	NVA	7	25
DCP020503U	ACTIVE	SOP	DVB	12	28
DCP020503U/1K	ACTIVE	SOP	DVB	12	1000
DCP020505P	ACTIVE	PDIP	NVA	7	25
DCP020505U	ACTIVE	SOP	DVB	12	28
DCP020505U/1K	ACTIVE	SOP	DVB	12	1000
DCP020507P	ACTIVE	PDIP	NVA	7	25
DCP020507U	ACTIVE	SOP	DVB	12	28
DCP020507U/1K	ACTIVE	SOP	DVB	12	1000
DCP020509P	ACTIVE	PDIP	NVA	7	25
DCP020509U	ACTIVE	SOP	DVB	12	28
DCP020515DP	ACTIVE	PDIP	NVA	7	25
DCP020515DU	ACTIVE	SOP	DVB	12	28
DCP020515DU/1K	ACTIVE	SOP	DVB	12	1000
DCP021205P	ACTIVE	PDIP	NVA	7	25
DCP021205U	ACTIVE	SOP	DVB	12	28
DCP021205U/1K	ACTIVE	SOP	DVB	12	1000
DCP021212DP	ACTIVE	PDIP	NVA	7	25
DCP021212DU	ACTIVE	SOP	DVB	12	28
DCP021212DU/1K	ACTIVE	SOP	DVB	12	1000
DCP021212P	ACTIVE	PDIP	NVA	7	25
DCP021212U	ACTIVE	SOP	DVB	12	28
DCP021212U/1K	ACTIVE	SOP	DVB	12	1000
DCP021515P	ACTIVE	PDIP	NVA	7	25
DCP021515U	ACTIVE	SOP	DVB	12	28
DCP021515U/1K	ACTIVE	SOP	DVB	12	1000
DCP022405DP	ACTIVE	PDIP	NVA	7	25
DCP022405DU	ACTIVE	SOP	DVB	12	28
DCP022405DU/1K	ACTIVE	SOP	DVB	12	1000
DCP022405P	ACTIVE	PDIP	NVA	7	25
DCP022405U	ACTIVE	SOP	DVB	12	28
DCP022405U/1K	ACTIVE	SOP	DVB	12	1000
DCP022415DP	ACTIVE	PDIP	NVA	7	25
DCP022415DU	ACTIVE	SOP	DVB	12	28
DCP022415DU/1K	ACTIVE	SOP	DVB	12	1000

(1) The marketing status values are defined as follows: **ACTIVE:** Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect. NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in PREVIEW: Device has been announced but is not in production. Samples may or may not be available.
OBSOLETE: TI has discontinued the production of the device.