



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



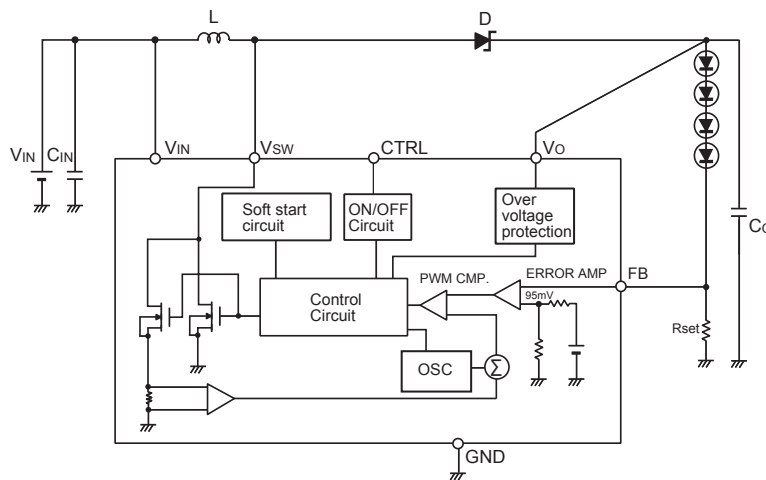


### Electrical Characteristics

(Unless otherwise specified, condition shall be  $V_{IN}=V_{CTRL}=3.6V, V_o=10V, I_o=20mA, T_a=25^\circ C$ )

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input-output voltage range	$V_{IN}$	-	2.7	-	5.5	V
Overvoltage detecting level	OVP	5pin	26	28	30	V
Overvoltage detecting hysteresis level	OVP(hys)	5pin	-	2	-	V
Quiescent current	$I_q$	Switching, $I_o=0mA$	-	0.8	1.6	mA
Stand-by current	$I_{SD}$	$V_{CTRL}=0V$	-	0.1	1	$\mu A$
Efficiency	$\eta$	3 LEDs	-	90	-	%
<b>Error amplifier</b>						
Reference voltage	$V_{REF}$	-	90.3	95	99.7	mV
FB pin bias current	$I_{FB}$	-	-	30	100	nA
<b>Oscillator</b>						
Oscillation frequency	$f_o$	-	1	1.2	1.4	MHz
Maximum duty	$D_{MAX}$	$V_{IN}=3V$	90	-	-	%
<b>Power switch</b>						
Overcurrent detection level	$I_L$	DUTY=70%, Switching current peak	250	-	-	mA
On-resistance	$R_{ON}$	$I_{sw}=250mA$	-	1.7	2.5	$\Omega$
Leakage current	$I_{LEAK}$	$V_{sw}=28V, V_{IN}=V_{CTRL}=0V$	-	0.05	1	$\mu A$
<b>Control terminal</b>						
ON-state voltage for control	$V_{C(ON)}$	-	1	-	-	V
OFF-state voltage for control	$V_{C(OFF)}$	-	-	-	0.4	V
CTRL pin bias current	$I_{CTRL}$	-	-	-	50	$\mu A$

### Block Diagram



### Example of application

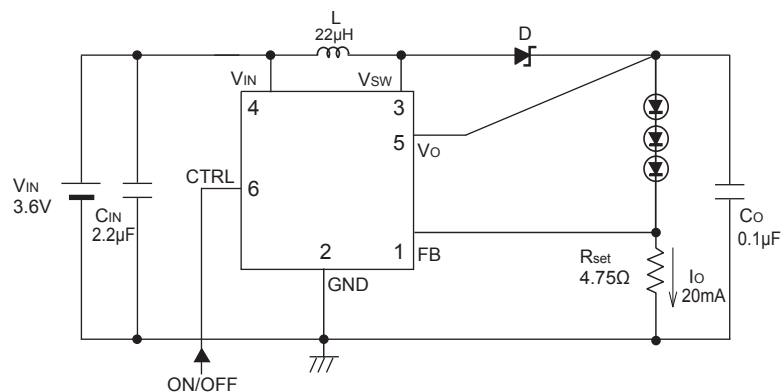
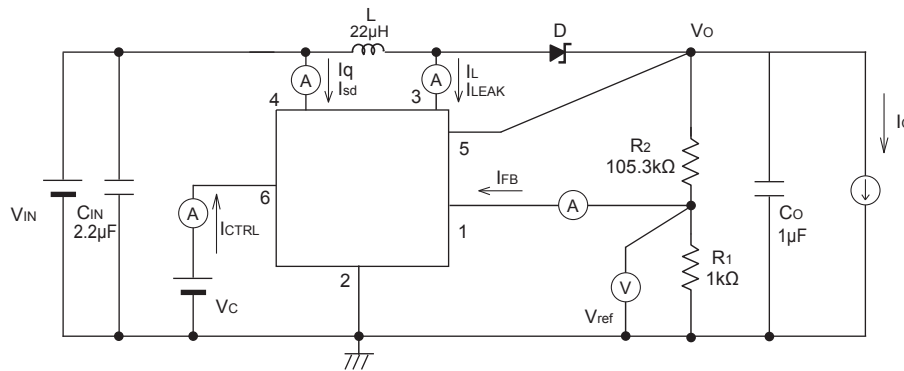


Fig.1 Standard measuring circuit



ON / OFF control logic

4pin	Output
LOW	OFF
HIGH	ON
OPEN	OFF

L:VLP4612(TDK CO.,LTD.)

D:MA2Z720(MATSUSHITA ELECTRIC INDUSTRIAL CO.,LTD)

Fig.2 Power Dissipation vs.Ambient Temperature

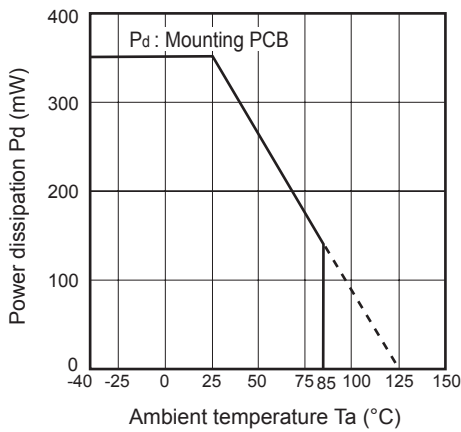


Fig.3 Reference Voltage Fluctuation vs. Junction Temperature

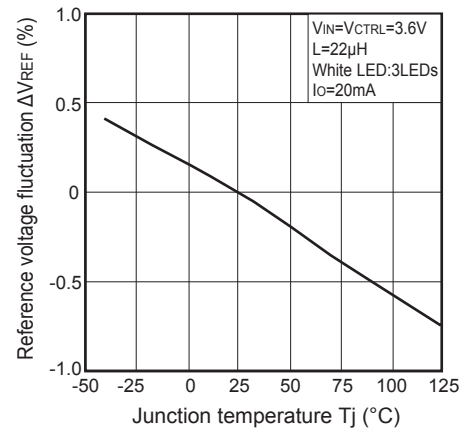


Fig.4 Reference Voltage Fluctuation vs. Input voltage

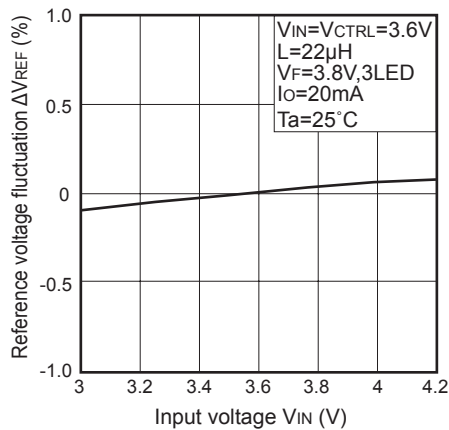


Fig.5 Efficiency vs. LED Current

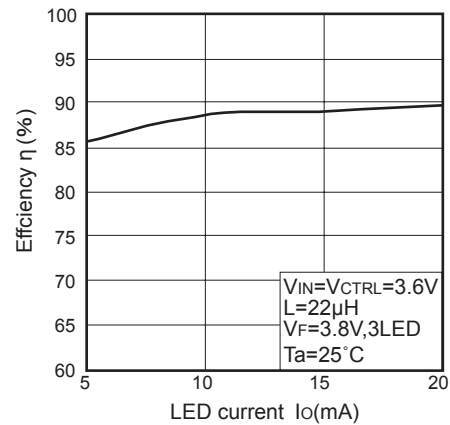


Fig.6 Efficiency vs. Input Voltage

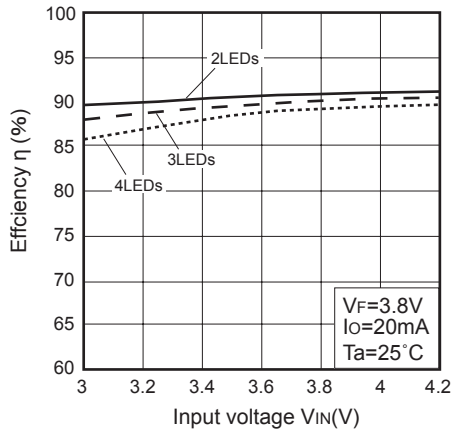


Fig.7 Oscillation Frequency Fluctuation vs. Junction Temperature

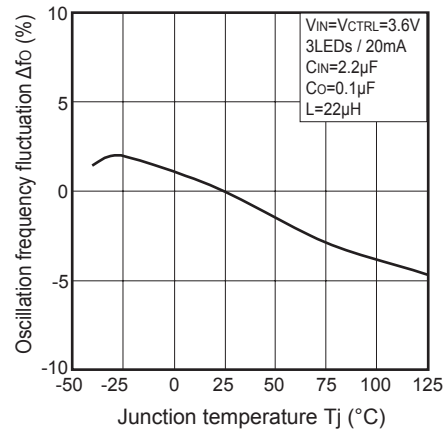


Fig.8 On-Resistance vs. Junction Temperature

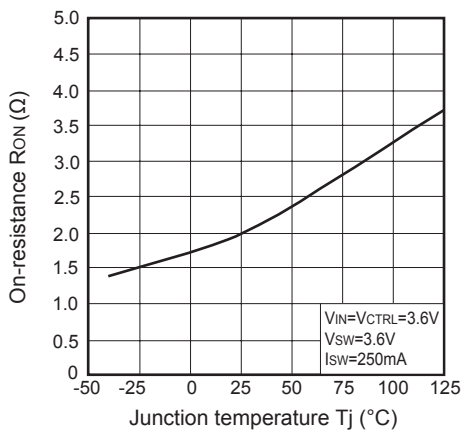
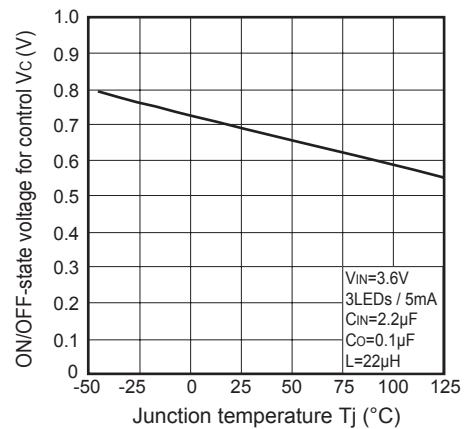


Fig.9 ON/OFF-state Voltage for Control vs. Junction Temperature



### Current-limit

This product monitors the switch current at every cycle and limits the switch current not to exceed the overcurrent detection level.

Please set the white LED current under the maximum LED current shown in the graph indicated below within the range of input voltage ( $V_{IN}$ ) you use.

Fig.10 Use Range of White LED

