上海贝岭 SHANGHAI BELLING

BL8518

Low Voltage Detector With Built-in Delay Circuit

DESCRIPTION

BL8518 is a series of high precision voltage detector with ultra-low current consumption (4.5uA typ. at Vin=3.0V) and a built-in delay circuit. It can work at very low voltage, which makes it perfect for system reset.

BL8518 is composed of high precision voltage reference, comparator, delay circuit, output driver and resistor array. Internally preset detect voltage has a low temperature drift and requires no external trimming.

Two type of output, CMOS and N-channel open-drain are available.

BL8518 is available in small size SOT-23 package which is Pb free.

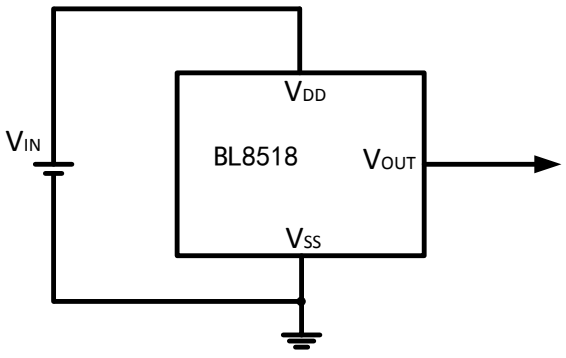
FEATURES

- High-Precision Detection Voltage: ±3%
- Detection Voltage: 2.63V and 2.93V (customized other voltages)
- Built-in Power on Reset Delay time circuit: Refer to Selection Guide
- Operating Voltage Range: 1.2V~6V
- Ultra-low current consumption: 4.5uA typ. (at Vin=3.0V)
- Two Output Forms: CMOS (Active Low) and N-channel open-drain (Active Low)

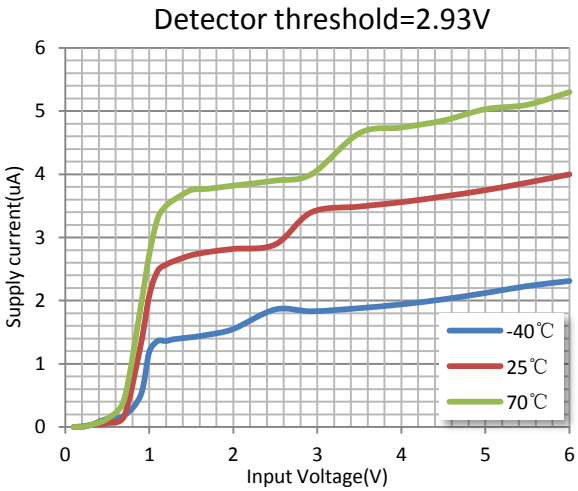
APPLICATIONS

- Power monitor for portable equipment such as PDA,DSC,Mobile phone,Notebook,MP3
- CPU and Logic Circuit Reset
- Battery Checker
- Battery Back-up Circuit
- Power Failure Detector

TYPICAL APPLICATION



ELECTRICAL CHARACTERISTICS

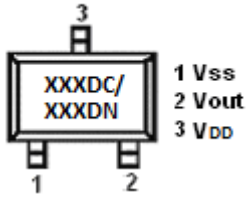
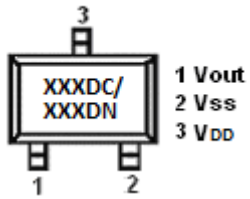


ORDERING INFORMATION

BL8518 ①②③④⑤⑥

Code	Description
①	Temperature&Rohs: C:-40~85°C ,Pb Free Rohs Std.
②	Package type: B3:SOT-23(A) B3B:SOT-23(B)
③	Packing type: TR:Tape&Reel (Standard)
④	Detector Voltage: e.g. 263=2.63V 293=2.93V
⑤	Delay time: D:200mS
⑥	Output forms: C:CMOS N:Nch

PIN CONFIGURATION

Product Classification		BL8518CB3TR□□□
Marking		SOT-23 (A) 
XXXDC/ XXXDN	XXX: Detector Voltage	
	D:Delay time D:200mS	
	C:CMOS N:Nch	
Product Classification		BL8518CB3BTR□□□
Marking		SOT-23 (B) 
XXXDC/ XXXDN	XXX: Detector Voltage	
	D:Delay time D:200mS	
	C:CMOS N:Nch	
Vss	Ground Pin	
VDD	Supply Voltage Input	
Vout	Voltage detection output pin	

ABSOLUTE MAXIMUM RATING

Parameter		Value
Input Voltage		-0.3V-8V
Output Voltage range		-0.3V- 8V
Maximum Output current		70mA
Ambient Temperature(Ta)		-40°C -85°C
Power Dissipation	SOT-23	250mW
Storage Temperature(Ts)		-40°C -150°C
Lead Temperature & Time		260°C,10S

Note:
Exceed these limits to damage to the device.
Exposure to absolute maximum rating conditions may affect device reliability.

RECOMMENDED WORK CONDITIONS

Item	Min	Recommended	Max.	Unit
Input Voltage Range	1.2		6	V
Ambient Temperature	-40	25	85	°C

ELECTRICAL CHARACTERISTICS

BL8518CXXTR263DC/N(2.63V)

(Topt＝25℃,Unless otherwise specified.)

Symbol	Parameter	Conditions	Reference data			Unit
			Min.	Typ.	Max.	
-VDET	Detector Threshold		2.551	2.63	2.709	V
ISS	Current consumption	VDD=4.63V		4.5	10	uA
VDDH	Maximum operating voltage				10	V
VDDL	Minimum Operating voltage			0.5		V
IOUT	Output current	Pch VDS=-2.1V，VDD=4.5V	1.0	2.0		mA

BL8518CXXTR293DC/N(2.93V)

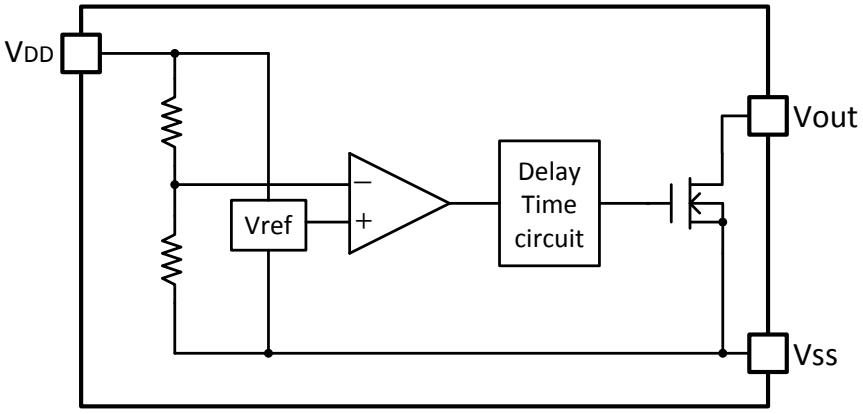
(Topt＝25℃,Unless otherwise specified.)

Symbol	Parameter	Conditions	Reference data			Unit
			Min.	Typ.	Max.	
-VDET	Detector Threshold		2.842	2.93	3.018	V
ISS	Current consumption	VDD=4.93V		4.5	10	uA
VDDH	Maximum operating voltage				10	V
VDDL	Minimum Operating voltage			0.5		V
IOUT	Output current	Pch VDS=-2.1V，VDD=4.5V	1.0	2.0		mA

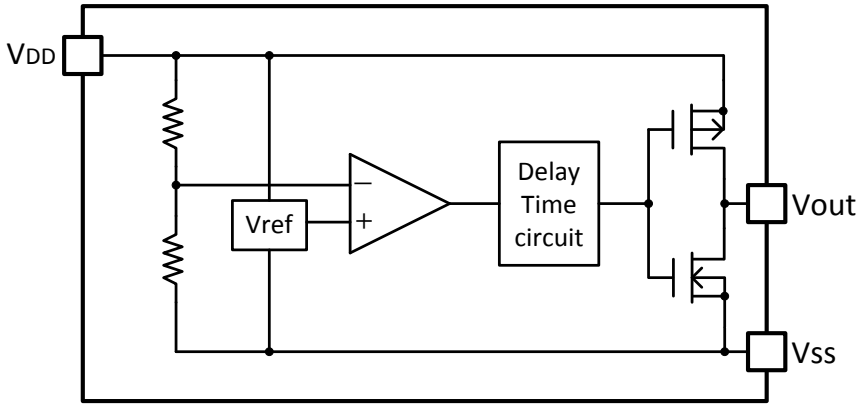
ELECTRICAL CHARACTERISTICS BY OUTPUT DELAY TIME

Part Number	Test Condition	Output Delay Time			Unit
		Min.	Typ.	Max.	
BL8518CXXTRXXXDC/N	VDD=1.0V to Vdet+1.0V	140	200	300	ms

BLOCK DIAGRAM

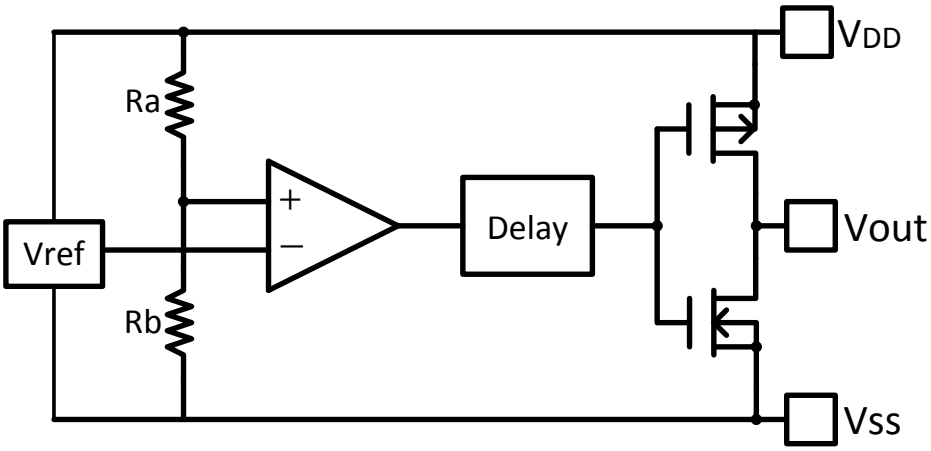


N Channel Open Drain



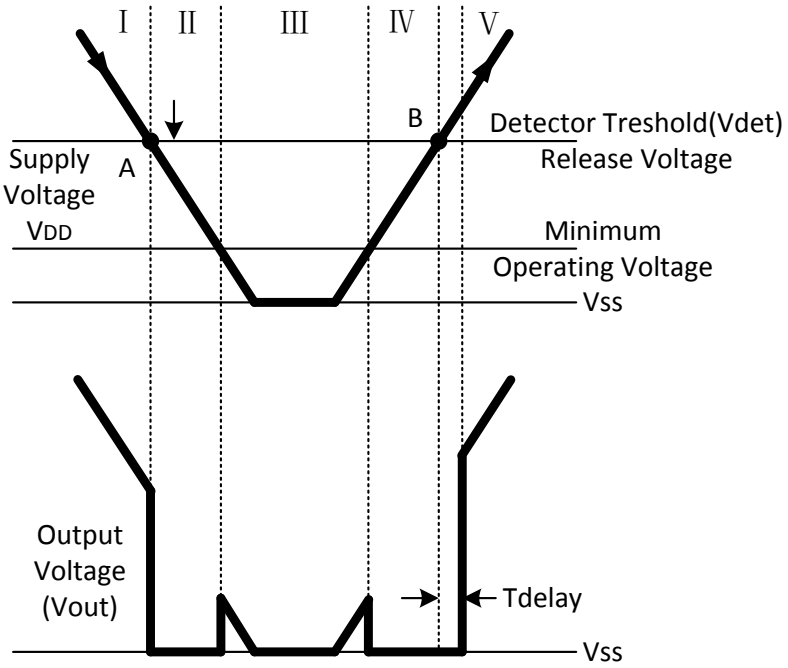
CMOS Output

FUNCTION DESCRIPTION



High precision low temperature co-efficiency reference voltage is applied to the negative input of a comparator. Input voltage, divided by resistor array of Ra and Rb, is applied to the positive input of the comparator. Output of the comparator passes a delay circuit and a series of buffer to drive the output CMOS pair.

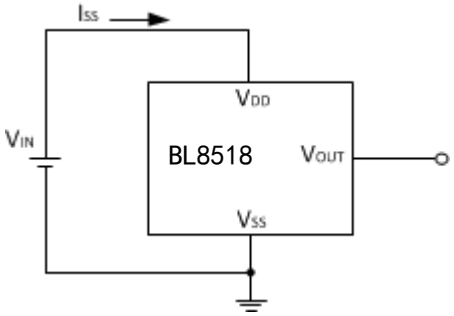
VDET =VREF*(1+Ra/Rb)



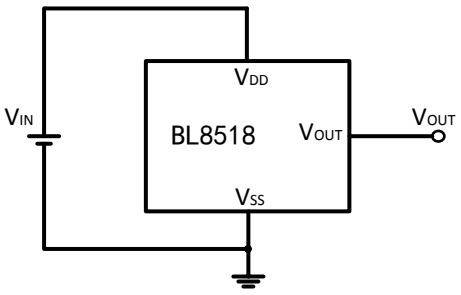
No.	Operation status	Output status
I	VDD>Vdet	Output voltage is equal to the supply voltage
II	VDD drops below Vdet	Output voltage equals to GND level
III	VDD drops further below VDDL	Output voltage is undefined
IV	VDD rises above VDDL	Output voltage equals to GND level
V	VDD rises above Vdet	Output voltage equals to supply voltage after Tdelay

TEST CIRCUITS

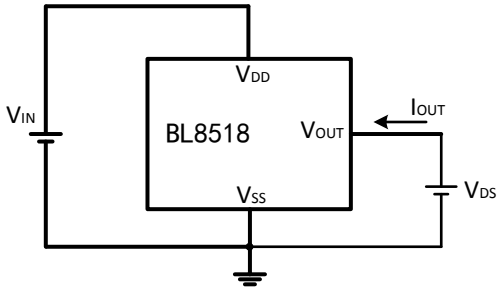
(1) Supply current test circuit



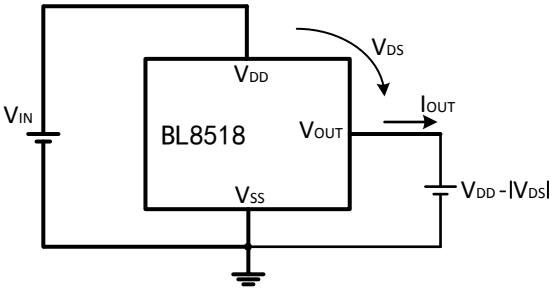
(2) Detector threshold test circuit



(3) NCH Drive Output Current Test Circuit



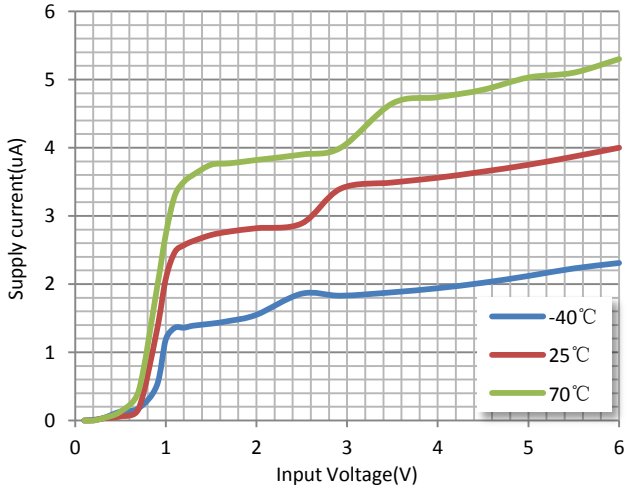
(4) PCH Drive Output Current Test Circuit



TYPICAL PERFORMANCE CHARACTERISTICS

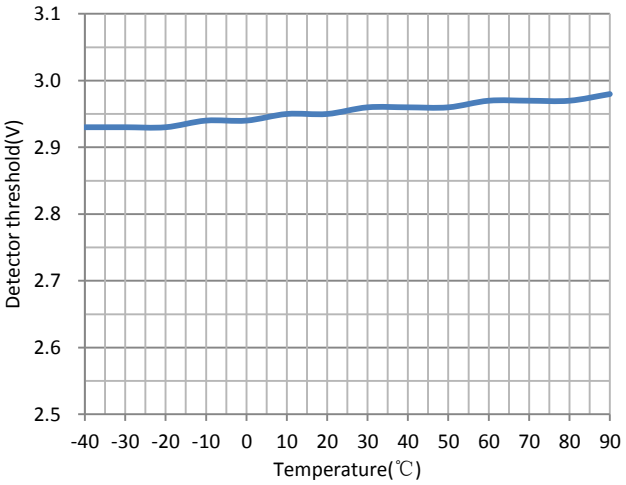
1) Supply current VS. Input voltage

Detector threshold=2.93V



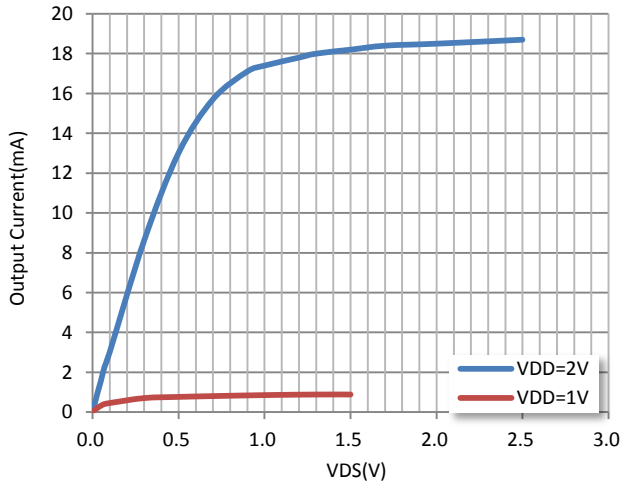
2) Detector Threshold VS. Temperature

Detector threshold=2.93V



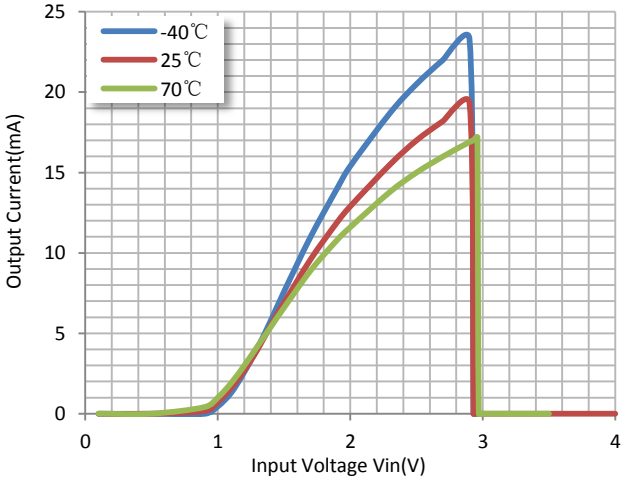
3) Nch Driver Output Current VS. VDS

Detector threshold=2.93V



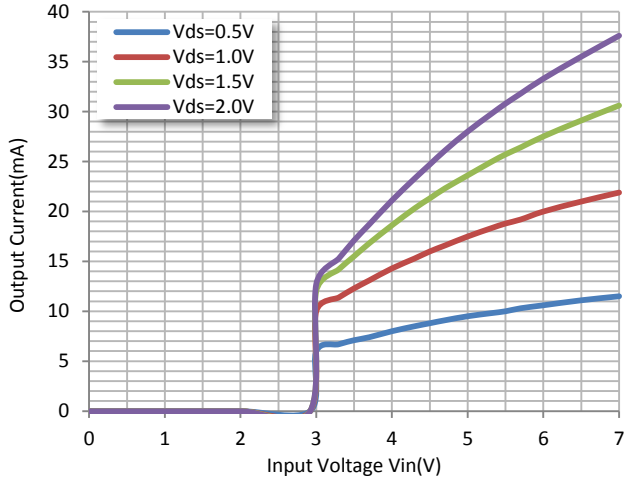
4) NCH Driver Output Current vs. Input Voltage

Detector threshold=2.93V



5) PCH Driver Output Current vs. Input Current

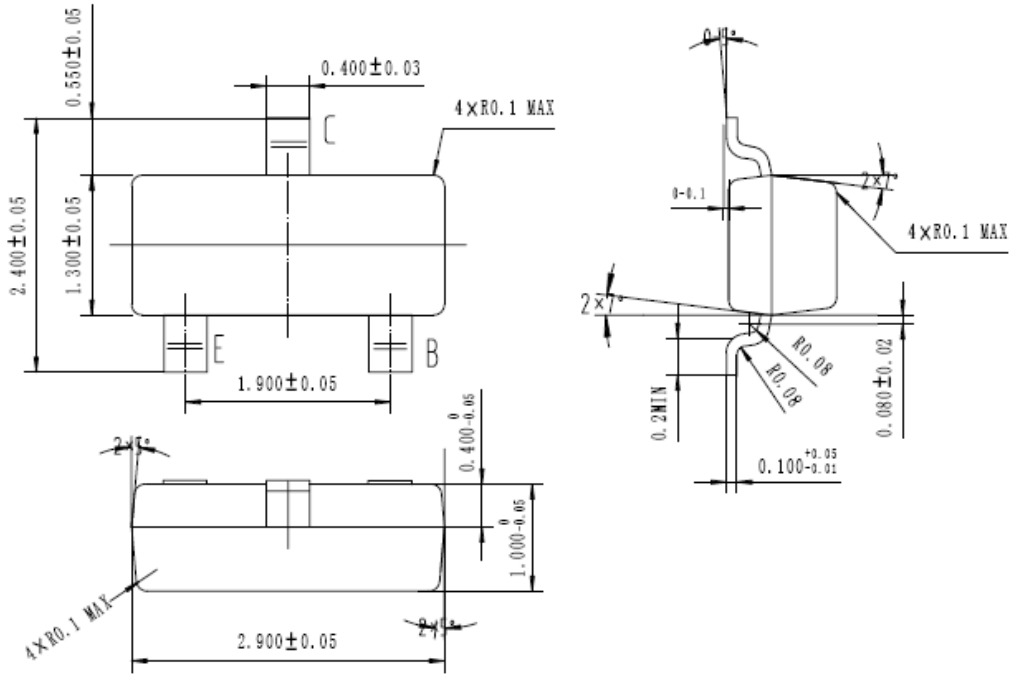
Detector threshold=2.93V



PACKAGE LINE

Package	SOT-23	Devices per reel	3000Pcs	Unit	mm

Package dimension：



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Microprocessors - MPU ***category:***

Click to view products by Belling ***manufacturer:***

Other Similar products are found below :

MCIMX6D5EYM12AD A2C00010998 A ALXD800EEXJCVD C3 LS1020ASE7KQB LS1020AXE7KQB A2C00010729 A T1022NSE7MQB T1024NXE7PQA T1042NSN7WQB MPC8313EVRADDC BOXSTCK1A8LFCL LS1021ASE7KQB LS1021ASN7KQB T1024NXN7MQA T2080NXE8MQB MPC8569CVJANKGB MCIMX6L3EVN10AB T2080NXE8PTB T1024NXE7MQA CM8063501521600S R19L LS1043AXE7MQB T1024NXN7PQA LS1043ASE7QQB LS1012AXE7HKA T4240NSN7PQB MVF30NN152CKU26 FH8067303534005S R3ZM R9A07G044L24GBG#AC0 SVF311R3K2CKU2 HW8076502640002S R38F R7S721030VLFP#AA0 MCF5208CVM166 MCIMX6S6AVM08AC MCIMX6U5DVM10AC TEN54LSDV23GME MC68302AG33C MC68302EH16C MCF5233CVM150 MCIMX6D6AVT10AD MCIMX6G1CVM05AB MPC8314ECVRAGDA MPC8315VRAGDA MPC8541VTAPF PIC16F1828-I/SS PIC16F690T-I/SS PIC16F877-20/PQ PIC16F727-I/PT PIC16F1823-I/SL PIC18LF14K50-I/SS MPC8313ECVRAGDC