



# NJM2392

## ■ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

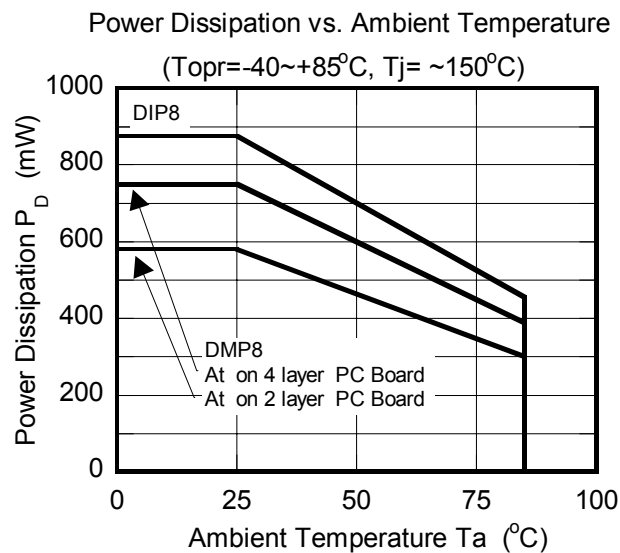
PARAMETER	SYMBOL	MAXIMUM RATINGS	UNIT
Maximum Supply Voltage	$V^+$	40	V
Comparator Input Voltage	$V_{IR}$	-0.3 ~ 40 (note)	V
Output Driver Voltage	$V_C(\text{driver})$	40	V
Output Switch Voltage	$V_{SW}$	40	V
Output Driver Current	$I_C(\text{driver})$	100	mA
Output Switch Current	$I_{SW}$	1.5	A
Power Dissipation	$P_D$	DIP8      875 DMP8      580 (*1) 750 (*2)	mW
Operating Temperature Range	$T_{opr}$	-40 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-50 ~ +150	°C

(note) When supply voltage is less than 40V, the absolute maximum input voltage is equal to the supply voltage.

(\*1) At on PC board : 114.3mm × 76.2mm × 1.6mm(2 layer FR-4) : Conform to EIA/JEDEC

(\*2) At on PC board :114.3mm × 76.2mm × 1.6mm(4 layer FR-4) : Conform to EIA/JEDEC

## ■POWER DISSIPATION vs. AMBIENT TEMPERATURE



## ■ ELECTRICAL CHARACTERISTICS

DC Characteristics ( $V^+=5V$ ,  $T_a=25^\circ C$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
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### OSCILLATOR BLOCK

Oscillation Frequency	$f_{OSC}$	$I_N=0V$ , $C_T=1nF$	18	27	36	kHz
Charge Current	$I_{chg}$		11	18	27	$\mu A$
Discharge Current	$I_{dis}$		110	180	300	$\mu A$
Voltage Swing	$V_{OSC}$	$C_T=1nF$	–	0.5	–	$V_{P-P}$
Discharge to Charge Current Ratio	$I_{ratio}$	$I_{chg}/I_{dis}$	–	9	–	–

### CURRENT LIMIT

Peak Current Sense Voltage	$V_{ipk}$		250	300	350	mV
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### OUTPUT SWITCH

Saturation Voltage 1	$V_{sat1}$	Darlington Connection ( $C_S=C_D$ ), $I_{SW}=0.7A$	–	1.0	1.3	V
Saturation Voltage 2	$V_{sat2}$	$I_{SW}=0.7A$ , $I_C(\text{driver})=50mA$ (Forced $\beta \approx 14$ )	–	0.5	0.7	V
Output Transistor Bias Resistance	$R_{bias}$		–	160	–	$\Omega$
DC Voltage Gain	$h_{FE}$	$I_{SW}=0.7A$ , $V_{CE}=5.0V$	35	120	–	–
Collector Off-State Current	$I_{C(Off)}$	$V_{CE}=40V$	–	0.01	1	$\mu A$

### ERROR AMPLIFIER

Threshold Voltage	$V_{th}$		1.225	1.250	1.275	V
Input Bias Current	$I_B$	$I_N=0V$	–	300	900	nA

### GENERAL CHARACTERISTICS

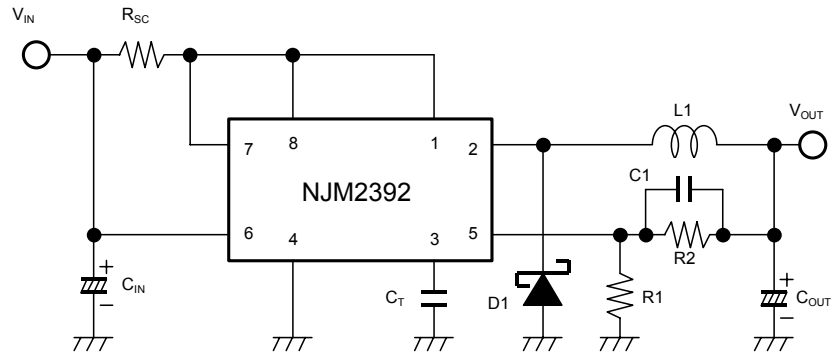
Operating Current	$I_{CC}$	$C_T=1nF$ , $S_I=V^+$ , $I_N > V_{th}$ , $E_S=GND$	–	2.8	4.0	mA
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(note) Output switch tests are performed under pulsed conditions to minimize power dissipation.

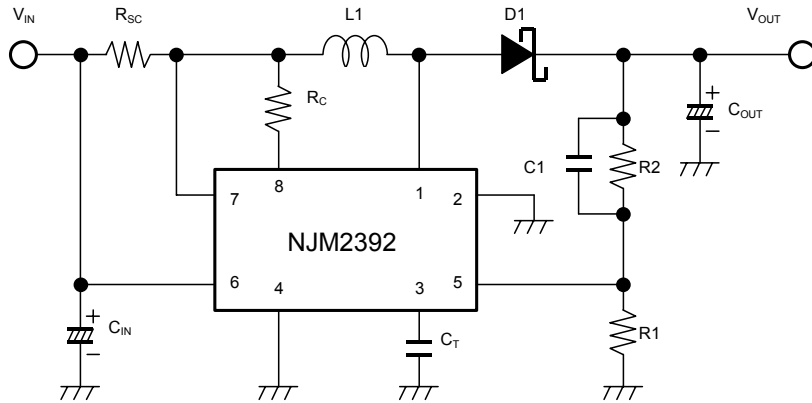
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## ■ TYPICAL APPLICATIONS

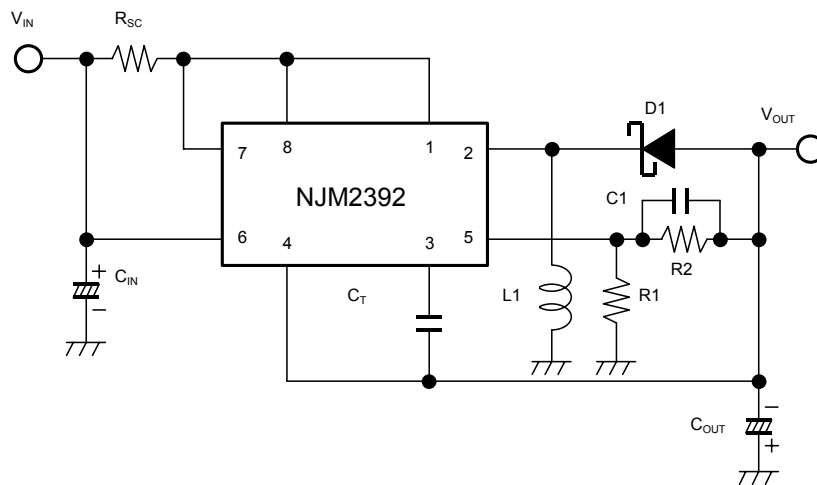
### Step-Down Converter



### Step-Up Converter



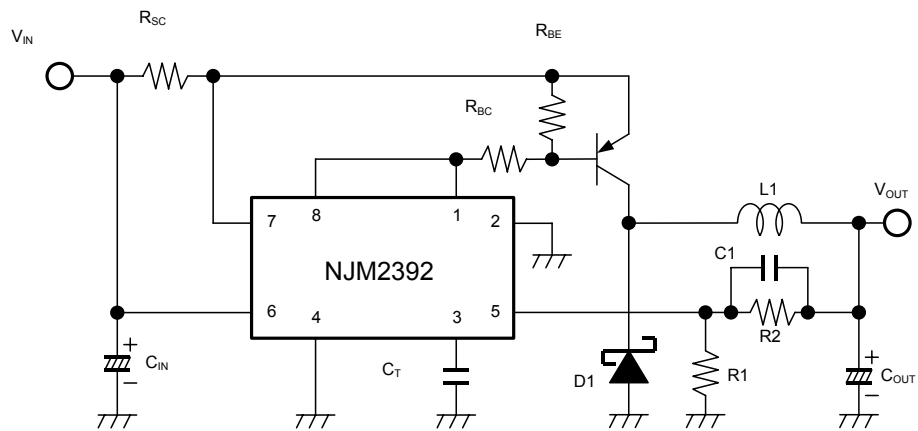
### Inverting Converter



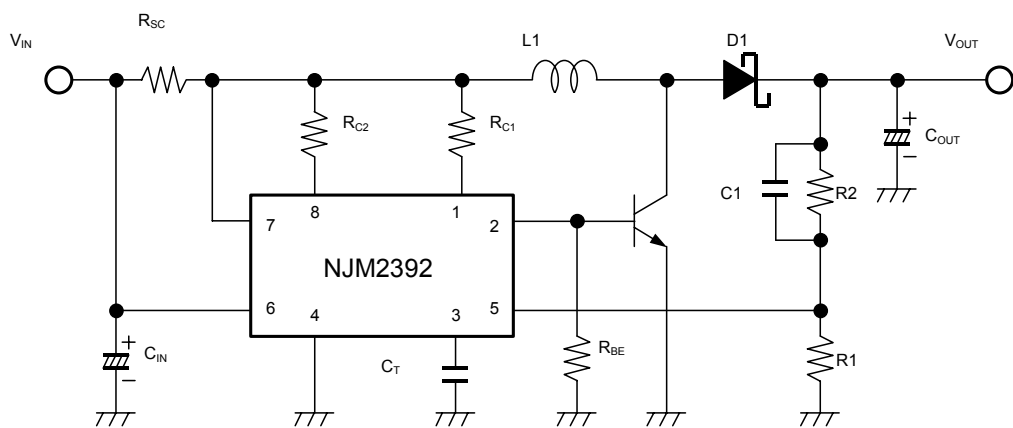
D1 use to schottky diode.

## ■ TYPICAL APPLICATIONS

### Step-Down Converter (High Current)

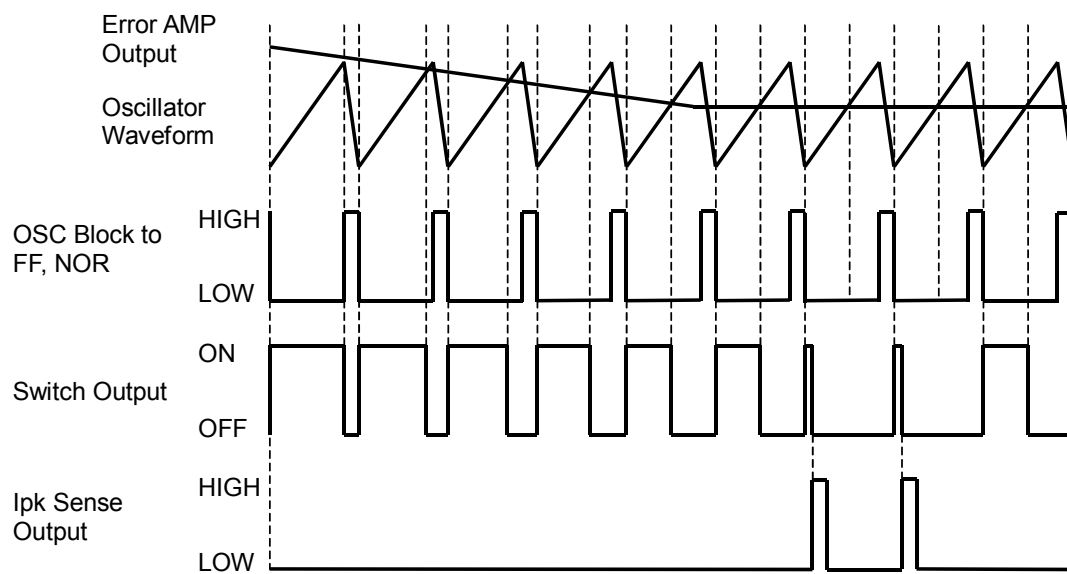


### Step-Up Converter (High Current)

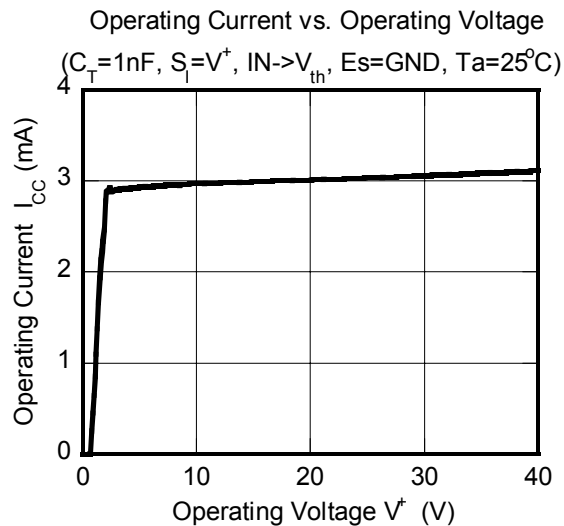
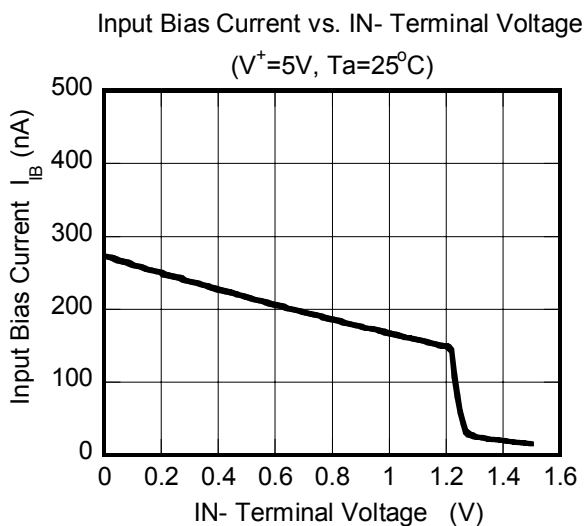
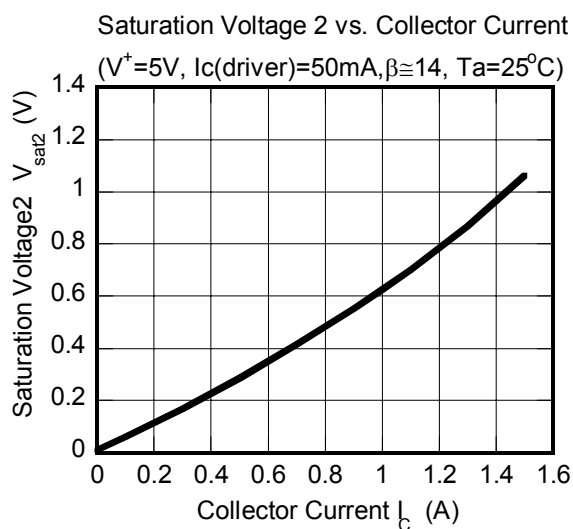
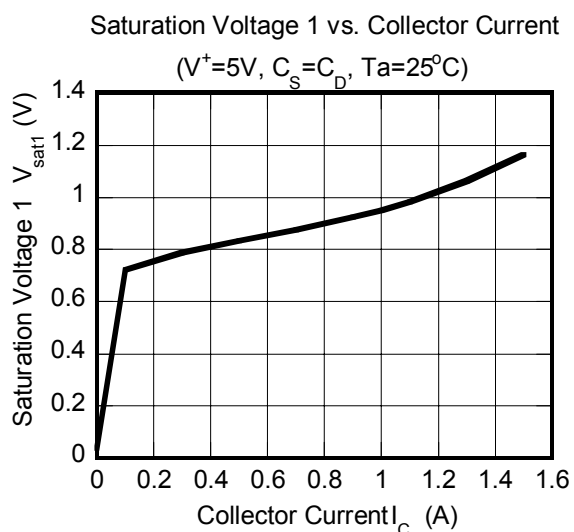
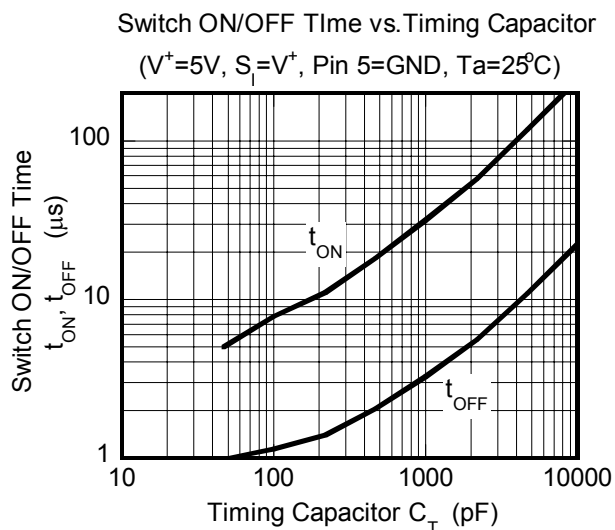
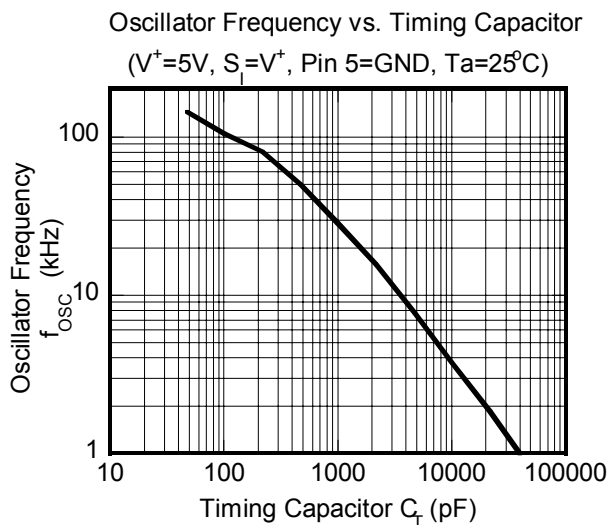


D1 use to schottky diode.

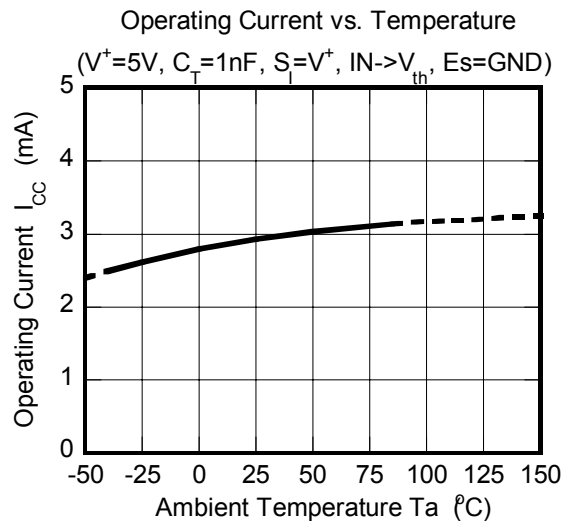
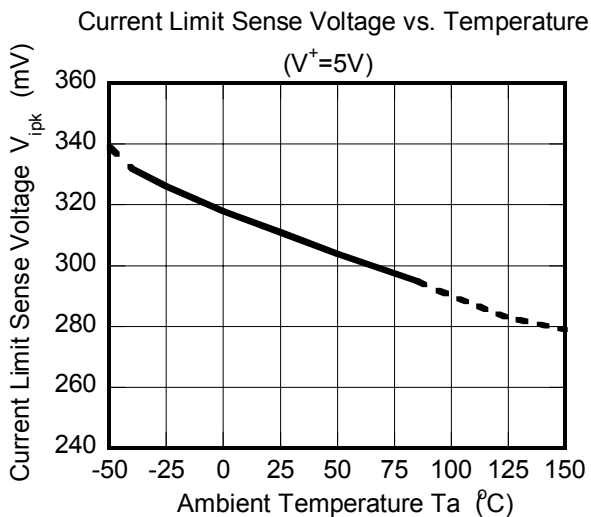
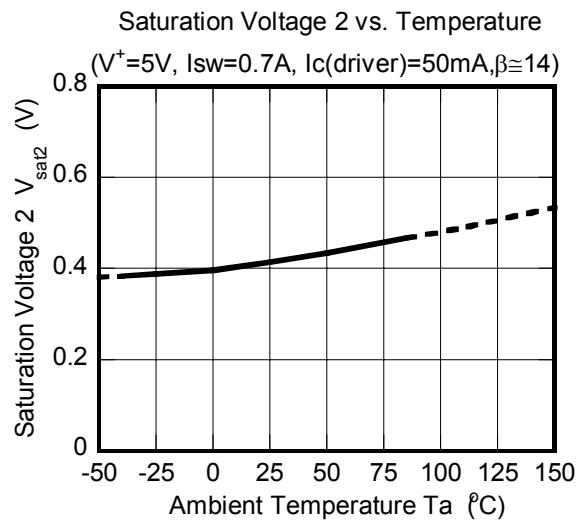
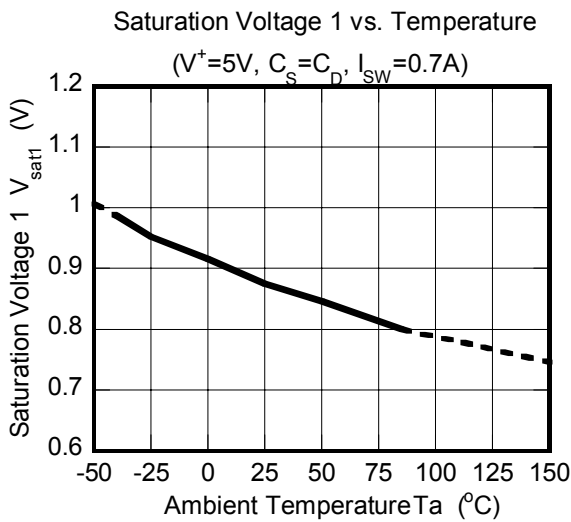
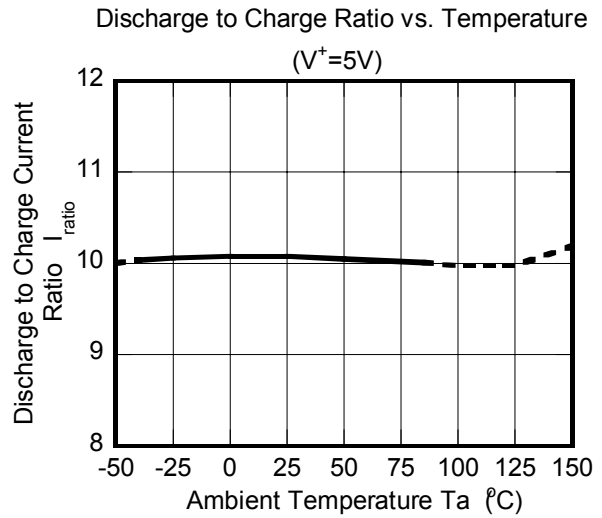
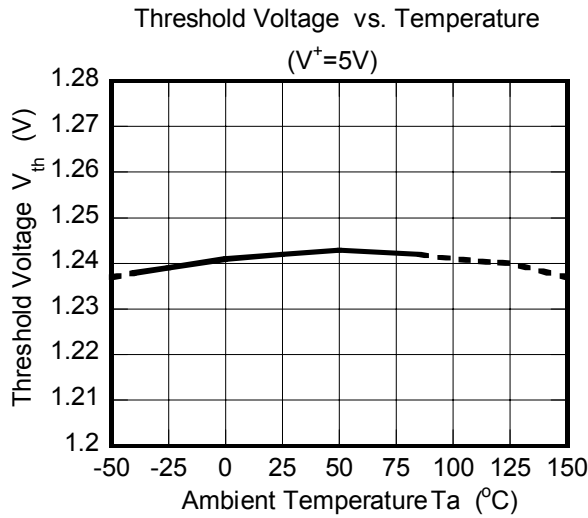
## ■TIMING CHART



## ■ TYPICAL CHARACTERISTICS



## ■ TYPICAL CHARACTERISTICS





# MEMO

**[CAUTION]**

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