

50V High Side Over-Voltage Protector

DESCRIPTION

ETA7024 is a 50V high voltage over voltage protector (OVP) which has a very low 40mohm on resistance. It can be used as an OVP device or a high voltage switch by only changing the external connecting.

ETA7024 consists of a charge pump, a configurable power MOSFET, a voltage reference, a gate driver and some logics and protection modules. ETA7024 can react to an input surge very fast and shut off the switch in less than 0.2us and stand the voltage spike as high as 50V.

ETA7024 is in SOP7 package.

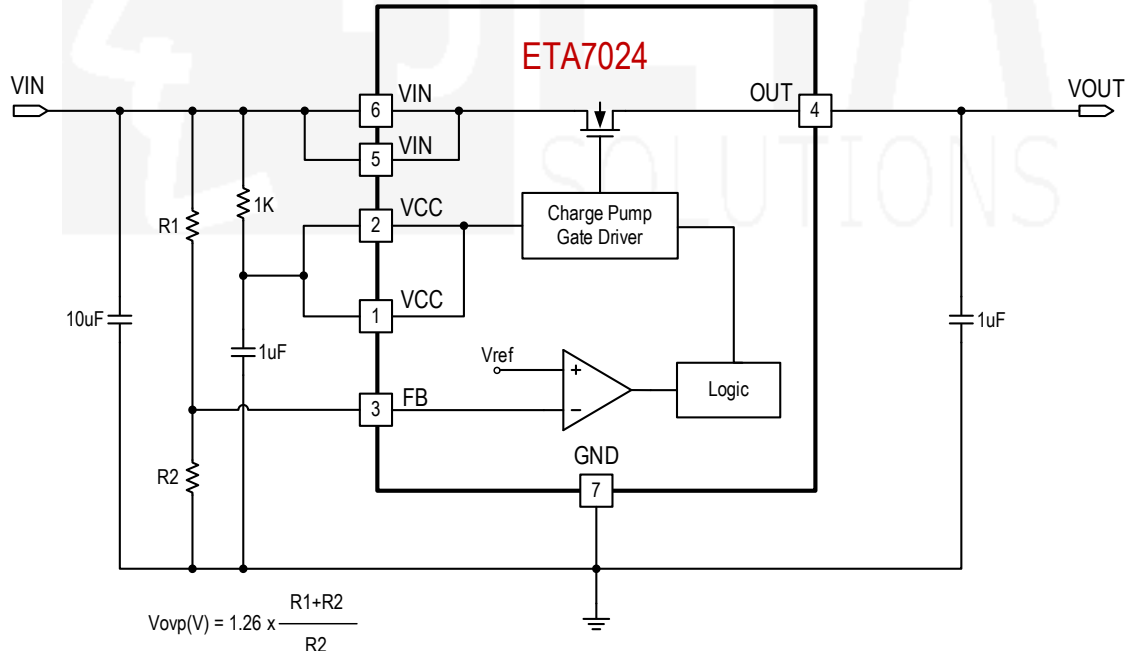
FEATURES

- ◆ 50V Standoff Voltage
- ◆ 40mohm on Resistance
- ◆ Input OVP with 0.2us Reaction Time
- ◆ Protection Voltage Programmable by $V_{fb}=1.26V$
- ◆ OTP

APPLICATIONS

- ◆ All electronic devices with input DC power plug
- ◆ E-Cigarette
- ◆ Car Camera
- ◆ Cellphone

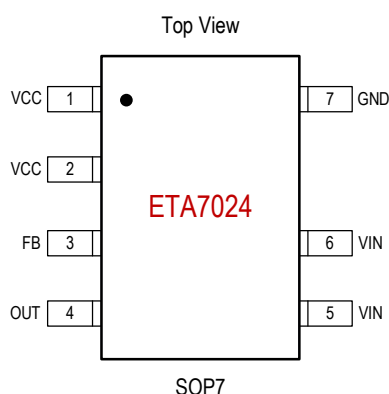
TYPICAL APPLICATION



ORDERING INFORMATION

PART No.	PACKAGE	TOP MARK	Pcs/Reel
ETA7024S7A	SOP7	ETA7024 YWW2L	4000

PIN CONFIGURATION



ABSOLUTE MAXIMUM RATINGS

(Note: Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability.)

FB Voltage	-0.3V to 8V
IN Voltage	-0.3V to 50V
OUT, VCC Voltage	-0.3V to 36V
Operating Temperature Range	-40°C to 85°C
Storage Temperature Range	-55°C to 150°C
Thermal Resistance θ_{JC} θ_{JA}	
SOP7.....	45.....75..... °C/W
Lead Temperature (Soldering, 10sec)	260°C
ESD HBM (Human Body Mode)	2KV
ESD CDM (Charged Device Mode)	1KV

ELECTRICAL CHARACTERISTICS

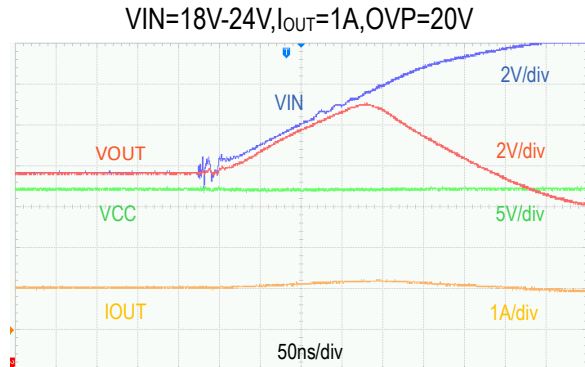
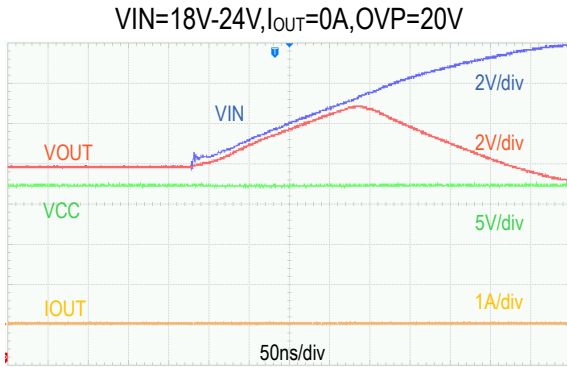
($V_{IN} = 5V$, unless otherwise specified. Typical values are at $T_A = 25^\circ C$.)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
IN Range		4.5		50	V
VCC Clamp			24		V
UVLO	Hys=1.5V		4.5		V
OVP FB	Vin=5V	1.21	1.26	1.31	V
OVP Range		5		20	V
Ron	VIN=5V, Iout=1A	20	40	60	mΩ
Iout_Max	The Max Iout		5		A
Iq	Standby Current	80	150	240	uA
Thermal Shutdown	Rising, Hys=50°C		135		°C

PIN DESCRIPTION

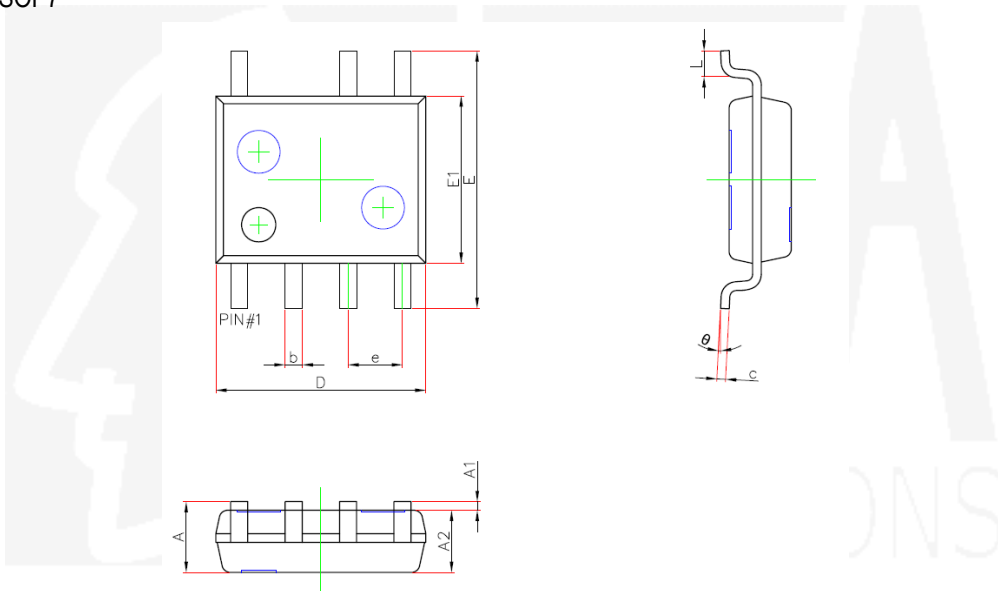
PIN #	NAME	DESCRIPTION
1,2	VCC	The independent supply voltage pin for control logic and charge pump.
3	FB	OVP feedback input pin. Connect an external resistor divider from VIN to GND thru this pin.
4	OUT	Output pin. Bypass with a 1uF capacitor from this pin to ground.
5,6	VIN	Power input pin. Bypass with a 10uF capacitor from this pin to ground.
7	GND	Ground

Over Voltage Protection Waveforms



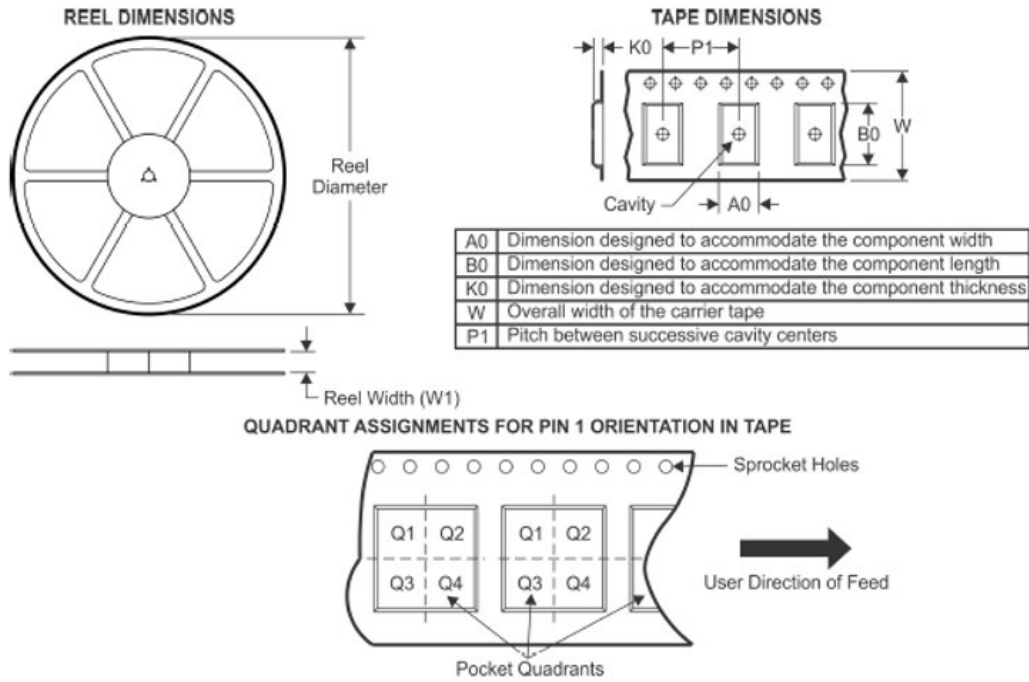
PACKAGE OUTLINE

Package: SOP7



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.450	1.750	0.057	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.500	0.053	0.059
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

TAPE AND REEL INFORMATION



Device	Package Type	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
ETA7024S7A	SOP7	7	4000	330	12.7	6.6	5.4	2.05	8	12	Q1