

STRUCTURE Silicon Monolithic Integrated Circuit  
 TYPE 1ch Regulator IC  
 PRODUCT SERIES **BD35632EFJ**  
 FEATURES
 

- Ceramic capacitor 1uF
- Built-in Soft Start function

○Absolute Maximum Ratings (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Power Supply Voltage	VCC	15.0 *1	V
Enable Input Voltage	VEN	15.0	V
Output Voltage	VO	15.0	V
Output Reference Voltage	V <sub>FB</sub>	15.0	V
Power Dissipation	Pd	2110*2	mW
Operating Temperature Range	Topr	-40~+100	°C
Storage Temperature Range	Tstg	-55~+150	°C
Maximum Junction Temperature	Tjmax	+150	°C

\*1 Should not exceed Pd.

\*2 Reduced by 16.9mW/°C for each increase in Ta≥25°C (when mounted on a 70mm × 70mm × 1.6mm glass-epoxy board, two layer)

○Operating Conditions (Ta=25°C)

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Input Power Supply Voltage	VCC	6.0	14.0	V
Enable Input Voltage	VEN	0.0	14.0	V
Output Voltage Setting Range	VO	1.5	13.0	V
Output Current	Io	0.0	1.0	A

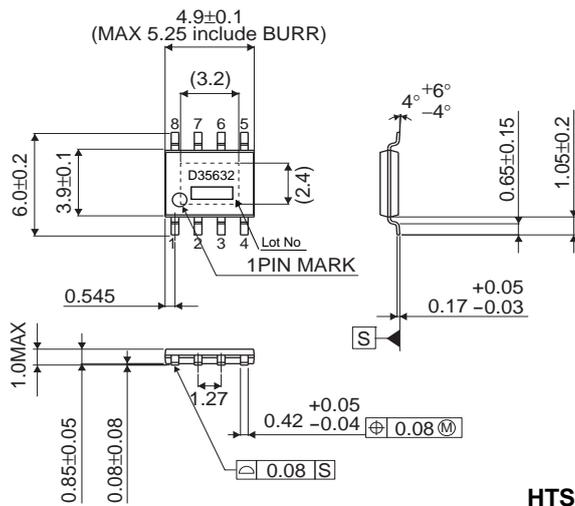
★This product is not designed for use in radioactive environments.

○ELECTRICAL CHARACTERISTICS (Unless otherwise specified, Ta=25°C, VEN=3V, Vcc=12V, R1=91kΩ, R7=3.3kΩ, R2=8.2kΩ \*1)

PARAMETER	SYMBOL	LIMIT			UNIT	CONDITIONS
		MIN	TYP	MAX		
Circuit Current at Shutdown	I <sub>sd</sub>	-	0	5	μA	VEN=0V, OFF mode
Bias Current	I <sub>cc</sub>	-	700	900	μA	
Line Regulation	Reg.li	-	25	50	mV	VCC=(VO+0.92V)→14.0V
Load Regulation	Reg.lo		25	75	mV	I <sub>o</sub> =0→1.0A
I/O voltage difference	V <sub>co</sub>	-	0.60	0.92	V	VCC=12V, I <sub>o</sub> =1.0A
Output Reference Voltage	V <sub>FB</sub>	0.792	0.800	0.808	V	I <sub>o</sub> =0mA
EN Low Voltage	VEN(Low)	0	-	0.8	V	
EN High Voltage	VEN(High)	2.4	-	14.0	V	
EN Bias Current	I <sub>EN</sub>	1	3	9	μA	

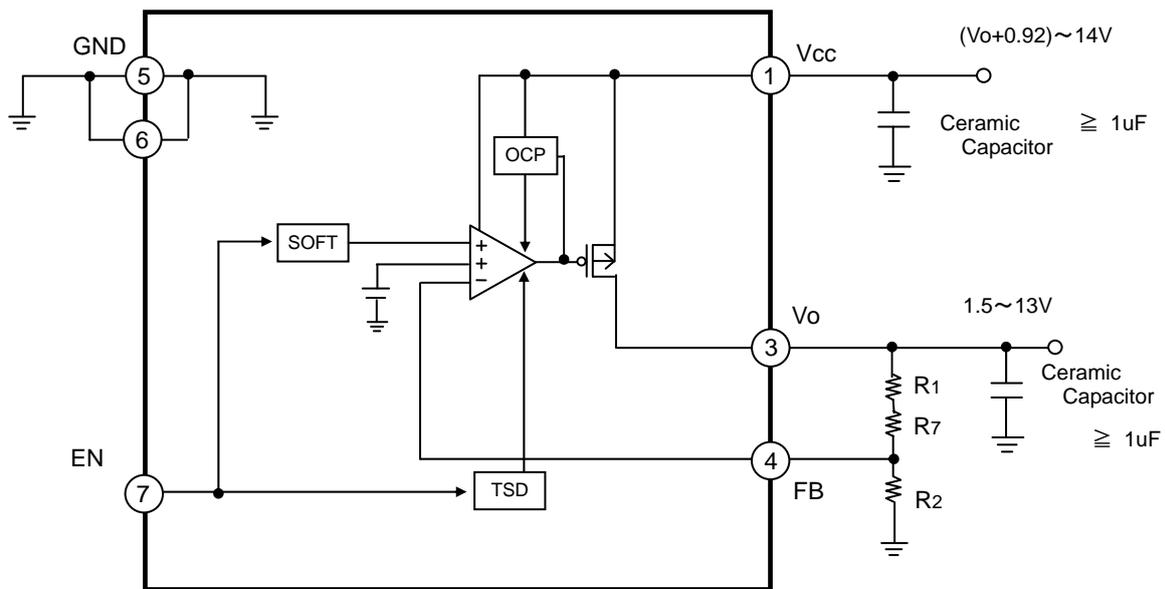
 \*1  $VO = V_{FB} \times (R_1 + R_2) \div R_2$  [V]

○ PHYSICAL DIMENSIONS



**HTSOP-J8**  
(Unit : mm)

○ BLOCK DIAGRAM



○ Pin number · Pin name

Pin No.	Pin name	Pin Function
1	VCC	Input Voltage Pin
2	N.C	OPEN
3	VO	Output Voltage Pin
4	FB	Output Reference Voltage Pin(Feed back Pin)
5	GND	GND Pin
6	GND	GND Pin
7	EN	Enable Pin
8	N.C	OPEN
reverse	FIN	Substrate

\* Please short N.C, FIN to the GND.

○ NOTE FOR USE

1. Absolute maximum ratings

An excess in the absolute maximum ratings, such as supply voltage, temperature range of operating conditions, etc., can break down the devices, thus making impossible to identify breaking mode, such as a short circuit or an open circuit. If any over rated values will expect to exceed the absolute maximum ratings, consider adding circuit protection devices, such as fuses.

2. Connecting the power supply connector backward

Connecting of the power supply in reverse polarity can damage IC. Take precautions when connecting the power supply lines. An external direction diode can be added.

3. Power supply lines

Please add a protection diode when a large inductance component is connected to the output terminal, and reverse-polarity power is possible at startup or in output OFF condition.

4. GND voltage

The potential of GND pin must be minimum potential in all operating conditions.

5. Thermal design

Use a thermal design that allows for a sufficient margin in light of the power dissipation (Pd) in actual operating conditions.

6. Inter-pin shorts and mounting errors

Use caution when positioning the IC for mounting on printed circuit boards. The IC may be damaged if there is any connection error or if pins are shorted together.

7. Actions in strong electromagnetic field

Use caution when using the IC in the presence of a strong electromagnetic field as doing so may cause the IC to malfunction.

8. ASO

When using the IC, set the output transistor so that it does not exceed absolute maximum ratings or ASO.

9. Thermal shutdown circuit

The IC incorporates a built-in thermal shutdown circuit (TSD circuit). The thermal shutdown circuit (TSD circuit) is designed only to shut the IC off to prevent thermal runaway. It is not designed to protect the IC or guarantee its operation. Do not continue to use the IC after operating this circuit or use the IC in an environment where the operation of this circuit is assumed.

	TSD on temperature [°C] (typ.)	Hysteresis temperature [°C] (typ.)
BD35632EFJ	175	15

10. Testing on application boards

When testing the IC on an application board, connecting a capacitor to a pin with low impedance subjects the IC to stress. Always discharge capacitors after each process or step. Always turn the IC's power supply off before connecting it to or removing it from a jig or fixture during the inspection process. Ground the IC during assembly steps as an antistatic measure. Use similar precaution when transporting or storing the IC.

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