

Power switch for Express Card™

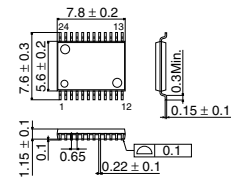
BD4153FV/EFV

● Description

BD4153FV/EFV is a power switch IC for next-generation PC card "Express Card™". 2 switches for 3.3V and one switch for 1.5V are incorporated to realize low power consumption in a card. For these switches, ultra-low ON resistance FET is adopted to control voltage fluctuation and to realize low current consumption. This IC also incorporates power management function that can detect presence of the card, conditions of the system and switch ON/OFF in power lines by this IC itself.

● Dimension (Unit : mm)

BD4153FV

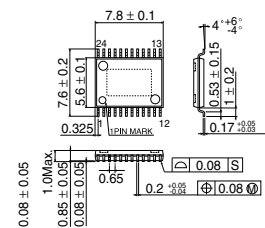


SSOP-B24

● Features

- 1) Built-in 3-channel low ON resistance FET for "Express Card™"
- 2) Built-in output discharge FET
- 3) Built-in enable function
- 4) Built-in UVLO (Under Voltage Lockout) circuit
- 5) SSOP-B24 package (BD4153FV)
HTSSOP-B24 package (BD4153EFV)
- 6) Built-in TSD (Thermal Shut Down) circuit
- 7) Built-in soft start circuit
- 8) Built-in over current protection circuit

BD4153EFV



HTSSOP-B24

● Applications

Notebook PC, Desktop PC, Digital applications

● Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Power supply voltage		V _{CC}	5	V
Power dissipation	BD4153FV	P _d	1025	mW
	BD4153EFV		1050	
Operating temperature range		T _{opr}	-40 ~ +100	°C
Storage temperature range		T _{stg}	-55 ~ +150	°C

*1 Do not exceed P_d.

*2 Derating : 8.2mW/°C for operation above Ta=25°C

On less than 3% (percentage occupied by copper foil), 70mmx70mm, t=1.6mm glass epoxy mouting.

*3 Derating : 8.8mW/°C for operation above Ta=25°C

On less than 3% (percentage occupied by copper foil), 70mmx70mm, t=1.6mm glass epoxy mouting.

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Input voltage for control	V _{CC}	3.0	3.3	3.65	V

*Express Card™ is a trademark of PCMCIA(Personal Computer Memory Card International Association)

●Electrical characteristics (Unless otherwise noted; Ta=25°C, Vcc=3.3V, VEN=3.3V, V3_IN=V3AUX_IN=3.3V, V15_IN=1.5V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Standby current	IST	–	50	100	μA	VEN=0V
Bias current	ICC2	–	1.5	3	mA	VSYSR=3.3V
[Switch V3]						
ON resistance	RON	–	35	70	mΩ	Ta=–10°C ~ +100°C *
[Switch V3AUX]						
Switch ON resistance	RON	–	100	200	mΩ	Ta=–10°C ~ +100°C *
[Switch V15]						
Switch ON resistance	RON	–	42	85	mΩ	Ta=–10°C ~ +100°C *
[Over current protection]						
OCP flag V3	OCPV3_S	1.5	–	–	A	
OCP flag V3AUX	OCPV3AUX_S	0.38	–	–	A	
OCP flag V15	OCPV15_S	0.9	–	–	A	
[Under voltage lockout]						
V3_IN threshold voltage	VUVLOV3_IN	–	2.9	–	V	sweep up
V3AUX_IN threshold voltage	VUVLOV3AUX_IN	–	2.9	–	V	sweep up
V15 threshold voltage	VUVLOV15	–	1.3	–	V	sweep up
Vcc threshold voltage	VUVLOVCC	–	2.9	–	V	sweep up

*Design guarantee

● Application Circuit

