2020-2-27 Rev.2.0

RD Number: RD127

RD Title: TB67S128FTG Evaluation circuit BOM

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package	Not Mount
1	CVM1	1	100µF 50V	–	–	Electrolytic capacitor		
2	CVM2	1	0.1µF 50V	–	–	Ceramic capacitor		
3	CCPO	1	0.22µF 50V	–	–	Ceramic capacitor		
4	CCP	1	0.022µF 50V	–	–	Ceramic capacitor		
5	R_RSA	0	0.22Ω 1W	–	–	Chip resistor		✓
6	R_RSB	0	0.22Ω 1W	–	–	Chip resistor		✓
7	RS1	1	Jumper	–	–	Short		
8	RS2	1	Jumper	–	–	Short		
9	R_LTH	1	100kΩ 0.25W	–	–	Leaded resistor		
10		2	Socket pin	–	–	Socket pin		
11	R_VREF1	0	Not mount	–	–	Leaded resistor		✓
12		2	Socket pin	–	–	Socket pin		
13	R_VREF2	0	Not mount	–	–	Leaded resistor		✓
14		2	Socket pin	–	–	Socket pin		
15	R_BST1	1	100kΩ 0.25W	–	–	Chip resistor		
16	R_BST2	1	100kΩ 0.25W	–	–	Chip resistor		
17	R_FLM1	1	100kΩ 0.25W	–	–	Chip resistor		
18	R_FLM2	1	100kΩ 0.25W	–	–	Chip resistor		
19	R_CLIM11	1	100kΩ 0.25W	–	–	Chip resistor		
20	R_CLIM12	1	100kΩ 0.25W	–	–	Chip resistor		
21	R_OSC	1	5.1kΩ 0.25W	–	–	Leaded resistor		
22		2	Socket pin	–	–	Socket pin		
23	C_OSC	1	270pF 1000V	–	–	Ceramic capacitor		
24	R_MO	1	10kΩ 0.25W	–	–	Chip resistor		
25	C_VCC	1	0.1µF 100V	–	–	Ceramic capacitor		
26	C_VREF	1	0.1µF 100V	–	–	Ceramic capacitor		

27	C_VDD	1	10μF 16V	–	–	Electrolytic capacitor		
28	R_LO0	1	10kΩ 0.25W	–	–	Chip resistor		
29	R_LO1	1	10kΩ 0.25W	–	–	Chip resistor		
30	C_OUTA+	0	1000pF	–	–	Ceramic capacitor		✓
31	C_OUTA-	0	1000pF	–	–	Ceramic capacitor		✓
32	C_OUTB-	0	1000pF	–	–	Ceramic capacitor		✓
33	C_OUTB+	0	1000pF	–	–	Ceramic capacitor		✓
34	SW1, SW2, SW17, SW18	4	Pin header	–	–	Jumper		
35		4	Jumper socket	–	–	Short pin		
36	SW3 to SW11, SW13 to SW16, SW19	14	Toggle switch	–	–	Toggle switch		
37	SW22 to SW24	3	Rotary switch	–	–	Rotary switch		
38	JP_VDD	1	Pin header 2P	–	–	Jumper		
39		1	Jumper socket	–	–	Short pin		
40	CN1	1	Connector 4P	–	–	Connector 4P-2.5		
41	OSCM	1	Check terminal	–	–	Check pin		
42	CLIM0	1	Check terminal	–	–	Check pin		
43	CLIM1	1	Check terminal	–	–	Check pin		
44	FLM	1	Check terminal	–	–	Check pin		
45	BST	1	Check terminal	–	–	Check pin		
46	IF_SEL	1	Check terminal	–	–	Check pin		
47	VCC	1	Check terminal	–	–	Check pin		
48	RSA	1	Check terminal	–	–	Check pin		
49	OUT_A+	1	Check terminal	–	–	Check pin		
50	OUT_A-	1	Check terminal	–	–	Check pin		
51	OUT_B-	1	Check terminal	–	–	Check pin		
52	OUT_B+	1	Check terminal	–	–	Check pin		
53	RSB	1	Check terminal	–	–	Check pin		
54	VM	1	Check terminal	–	–	Check pin		
55	MDT0	1	Check terminal	–	–	Check pin		
56	MDT1	1	Check terminal	–	–	Check pin		
57	TORQE0	1	Check terminal	–	–	Check pin		
58	TORQE1	1	Check terminal	–	–	Check pin		

59	TORQE2	1	Check terminal	–	–	Check pin		
60	AGC	1	Check terminal	–	–	Check pin		
61	MODE0	1	Check terminal	–	–	Check pin		
62	MODE1	1	Check terminal	–	–	Check pin		
63	MODE2	1	Check terminal	–	–	Check pin		
64	CLK	1	Check terminal	–	–	Check pin		
65	CW/CCW	1	Check terminal	–	–	Check pin		
66	STANDBY	1	Check terminal	–	–	Check pin		
67	ENABLE	1	Check terminal	–	–	Check pin		
68	RESET	1	Check terminal	–	–	Check pin		
69	GAIN_SEL	1	Check terminal	–	–	Check pin		
70	EDG_SEL	1	Check terminal	–	–	Check pin		
71	LO0	1	Check terminal	–	–	Check pin		
72	LO1	1	Check terminal	–	–	Check pin		
73	MO	1	Check terminal	–	–	Check pin		
74	GND	10	Check terminal	–	–	Check pin		
75	VREF	1	Check terminal	–	–	Check pin		
76	RS_SEL	1	Check terminal	–	–	Check pin		
77	VDD	1	Check terminal	–	–	Check pin		
78	OUT_A+_1	1	Check terminal	–	–	Check pin		
79	OUT_A-_1	1	Check terminal	–	–	Check pin		
80	OUT_B-_1	1	Check terminal	–	–	Check pin		
81	OUT_B+_1	1	Check terminal	–	–	Check pin		
82	VM_1	1	Check terminal	–	–	Check pin		
83	CP-	1	Check terminal	–	–	Check pin		
84	CP+	1	Check terminal	–	–	Check pin		
85	CP0	1	Check terminal	–	–	Check pin		
86	IC	1	TB67S128FTG	TB67S128FTG	TOSHIBA	Motor driver IC	QFN64	

Terms of Use

This terms of use is made between Toshiba Electronic Devices and Storage Corporation ("We") and customers who use documents and data that are consulted to design electronics applications on which our semiconductor devices are mounted ("this Reference Design"). Customers shall comply with this terms of use. Please note that it is assumed that customers agree to any and all this terms of use if customers download this Reference Design. We may, at its sole and exclusive discretion, change, alter, modify, add, and/or remove any part of this terms of use at any time without any prior notice. We may terminate this terms of use at any time and for any reason. Upon termination of this terms of use, customers shall destroy this Reference Design. In the event of any breach thereof by customers, customers shall destroy this Reference Design, and furnish us a written confirmation to prove such destruction.

1. Restrictions on usage
1. This Reference Design is provided solely as reference data for designing electronics applications. Customers shall not use this Reference Design for any other purpose, including without limitation, verification of reliability.
2. This Reference Design is for customer's own use and not for sale, lease or other transfer.
3. Customers shall not use this Reference Design for evaluation in high or low temperature, high humidity, or high electromagnetic environments.
4. This Reference Design shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable laws or regulations.

2. Limitations
1. We reserve the right to make changes to this Reference Design without notice.
2. This Reference Design should be treated as a reference only. We are not responsible for any incorrect or incomplete data and information.
3. Semiconductor devices can malfunction or fail. When designing electronics applications by referring to this Reference Design, customers are responsible for complying with safety standards and for providing adequate designs and safeguards for their hardware, software and systems which minimize risk and avoid situations in which a malfunction or failure of semiconductor devices could cause loss of human life, bodily injury or damage to property, including data loss or corruption. Customers must also

refer to and comply with the latest versions of all relevant our information, including without limitation, specifications, data sheets and application notes for semiconductor devices, as well as the precautions and conditions set forth in the "Semiconductor Reliability Handbook".
4. When designing electronics applications by referring to this Reference Design, customers must evaluate the whole system adequately. Customers are solely responsible for all aspects of their own product design or applications. WE ASSUME NO LIABILITY FOR CUSTOMERS' PRODUCT DESIGN OR APPLICATIONS.
5. No responsibility is assumed by us for any infringement of patents or any other intellectual property rights of third parties that may result from the use of this Reference Design. No license to any intellectual property right is granted by this terms of use, whether express or implied, by estoppel or otherwise.
6. THIS REFERENCE DESIGN IS PROVIDED "AS IS". WE (a) ASSUME NO LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, INDIRECT, CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OR LOSS, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF OPPORTUNITIES, BUSINESS INTERRUPTION AND LOSS OF DATA, AND (b) DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES AND CONDITIONS RELATED TO THIS REFERENCE DESIGN, INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY OF INFORMATION, OR NONINFRINGEMENT.

3. Export Control
Customers shall not use or otherwise make available this Reference Design for any military purposes, including without limitation, for the design, development, use, stockpiling or manufacturing of nuclear, chemical, or biological weapons or missile technology products (mass destruction weapons). This Reference Design may be controlled under the applicable export laws and regulations including, without limitation, the Japanese Foreign Exchange and Foreign Trade Law and the U.S. Export Administration Regulations. Export and re-export of this Reference Design are strictly prohibited except in compliance with all applicable export laws and regulations.

4. Governing Laws
This terms of use shall be governed and construed by laws of Japan.