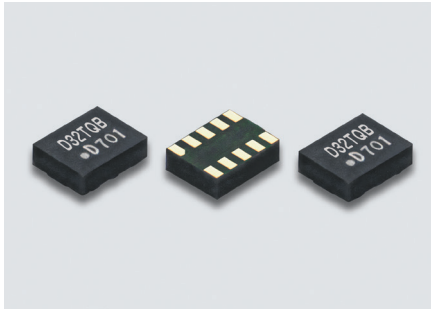


SMD Real Time Clock Module

Under Development

DD3225TQB



Actual size

Features

- Digital temperature compensated type
 - Low current consumption
 - High precision: $\pm 5.0 \times 10^{-6}$ (−40 to +85°C), $\pm 8.0 \times 10^{-6}$ (+85 to +105°C)
 - I²C-BUS serial interface: 400kHz fast-mode compatible
 - Clock function: hour, minute, second
 - Calendar function with auto leap year adjustment: year, month, day, day of week
 - Alarm interrupt function: day, day of week, hour, minute
 - Fixed-cycle timer interrupt function: 244.14μs to approximately 68 hours
 - Time update interrupt function: minute, second
 - Clock output function: 32.768kHz, 1024Hz, 1Hz (select one)
 - Power switching function
 - CMOS level output
 - AEC-Q200 compliant (Option: Equivalent to AEC-Q100)
- * "I²C-BUS" is a trademark of NXP semiconductors.



Applications

- High precision clock source
- Car navigation, smart meter, data logger

Standard Specification

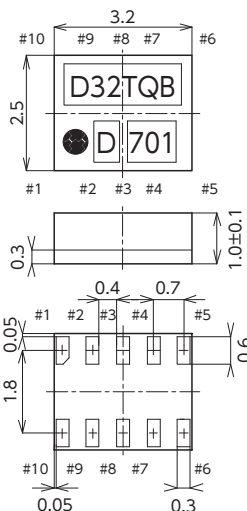
Item	Legend	Spec.				Condition
		min.	typ.	max.	Unit	
Output Frequency	f _o	—	32.768	—	kHz	
Supply Voltage	V _{cc}	+1.6	—	+5.5	V	(Clock Timing Operating)
Frequency Tolerance (Includes frequency tolerance at room temperature)	f _{tol}	−5	—	+5	× 10 ^{−6}	−40 to +85°C
		−8	—	+8	× 10 ^{−6}	+85 to +105°C
Current Consumption	I _{cc}	—	1.00	15	μA	V _{cc} =+3.0V, OE="H", f _{SCL} =0Hz, INTN=V _{cc} , Output:32.768kHz, CL=0pF
		—	2.00	18		V _{cc} =+5.0V, Temperature Compensation Interval 2s, V _{cc} Voltage Detection Time 2ms
Stand-by Current (#1 pin "L" Level)	I _{std}	—	0.52	12	μA	V _{cc} =+3.0V, OE="L", f _{SCL} =0Hz, INTN=V _{cc} , Output off
		—	0.56	15		V _{cc} =+5.0V, Temperature Compensation Interval 2s, V _{cc} Voltage Detection Time 2ms
Load Condition	L _{CMOS}	—	—	15	pF	
Symmetry	SYM	40	—	60	%	50%V _{cc}
0 Level Output Voltage	V _{OH}	2.9	—	3.0	V	V _{cc} =3.0V, I _{OH} =−100μA
1 Level Output Voltage	V _{OL}	Gnd	—	Gnd+0.1	V	V _{cc} =3.0V, I _{OL} =+100μA
Rise and Fall Time	tr/ta	—	—	100	ns	20 to 80% V _{cc} Level
OE Pin 0 Level Input Voltage	V _{IH}	0.95 × V _{cc}	—	V _{cc}	V	
OE Pin 1 Level Input Voltage	V _{IL}	Gnd − 0.3	—	0.05 × V _{cc}	V	
Start Up Time	T _{start}	—	—	1	s	V _{cc} =+3V, Ta=+25°C
Packing Unit (1)		2000pcs./reel (φ 180)				

(1) Moisture prevention packing
Moisture sensitivity level : Level 2 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

[mm]

Dimensions

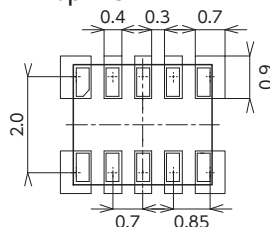


Function	
#1 Input	#4 Output Condition
H	Oscillation out
L	High Z

Marking	
(1) Type	DD32TQB
(2) Logo	D
(3) Date code	Year(1digit) + Week(2digits) e.g. 2026/1/1 → 601

Recommended Land Pattern

<Top View>



Pin Function

No.	Name	I/O	Function
#1	OE	I	Output control enable input (L:High impedance,H:Clock output)
#2	V _{cc}	-	Supply voltage
#3	VBAT	-	Battery connection
#4	Output	O	Clock output connection
#5	SCL	I	I ² C-BUS serial interface clock input connection
#6	N.C.	-	
#7	SDA	I/O	I ² C-BUS serial interface data input/output connection
#8	N.C.	-	
#9	Gnd	-	Ground connection
#10	INTN	O	Interrupt signal output, open-drain output