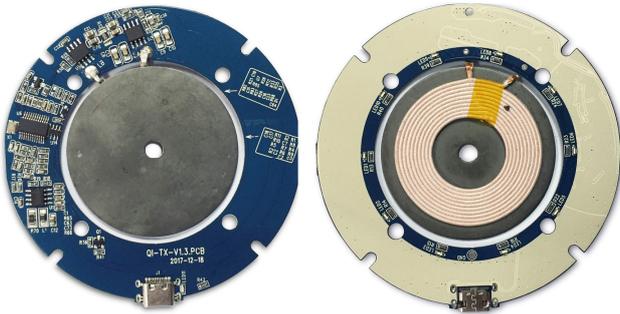
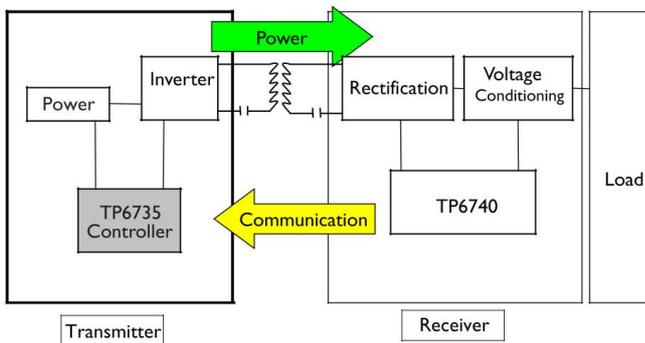


WCM-TP6735

Qi Compliant Wireless Power Transmitter



The WCM-TP6735 is a Wireless Power digital controller for Qi Compliant Wireless Power Transmitter design A5 and A11. The device operates with a 5V ($\pm 5\%$) adaptor, and utilizes an external full-bridge inverter to provide a solution for A5/A11 transmitter applications. It controls the transferred power by modulating the switching frequency of the full-bridge inverter from 110kHz to 205kHz at a fixed 50% duty cycle specified by the WPC specification for an A5/A11 transmitter.



FEATURE

- . Signal Demodulation
- . Status Indicator: Standby, Charging, Charging complete, Receiver Error, Transmitter Error.
- . Auto Detecting the Object (FOD)
- . Over Current Protection
- . DC 5V System Support Qi A11/ A5 design
- . Auto Decode Communication Packet from Receiver

PIN DESCRIPTIONS

Pin	Pin Name	Pin Description
1	VSS	GND
2	Xin	Crystal/Resonator oscillator connection for system clock.
3	Xout	Crystal/Resonator oscillator connection for system clock.
4	N.C.	
5	OPP0	Positive inputs of OPA0
6	OPN0	Negative inputs of OPA0
7	OPO0	Outputs of OPA0
8	OPP1	Positive inputs of OPA1
9	OPN1	Negative inputs of OPA1
10	OPO1	Outputs of OPA1
11	LED1	LED
12	LED2	LED
13	DS	Demodulation channel select
14	VREF	External Reference Voltage 2.5V Input. Connect this Input to GND
15	TS	Thermal Sensor Input
16	PWM1P	PWM1 control AO 4606 MOS switch inverter DC to AC
17	PWM1N	PWM1 control AO 4606 MOS switch inverter DC to AC
18	OC	Current Sensing input
19	PWM0N	PWM0 control AO 4606 MOS switch inverter DC to AC
20	PWM0P	PWM0 control AO 4606 MOS switch inverter DC to AC
21	FR	FOD LOSS_THD Select
22	DeMod	demodulation signal input
23	RENA	Analog ping detect
24	VDD	5V

ELECTRICAL CHARACTERISTICS

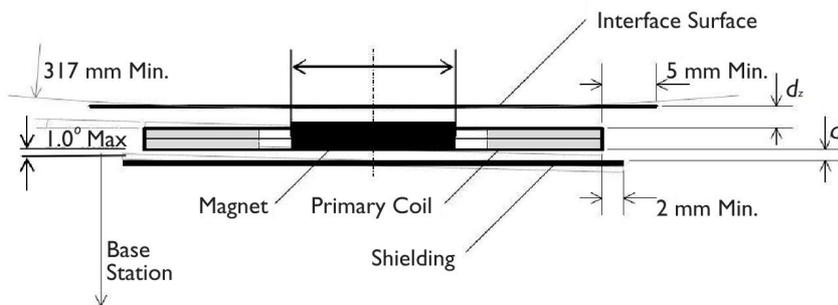
Absolute Maximum Ratings (T_A = 25°C)

Parameter	Rating	Unit
Supply Voltage	V _{SS} - 0.3 to V _{SS} +6.5	V
Input Voltage	V _{SS} - 0.3 to V _{DD} +0.3	
Output Voltage	V _{SS} - 0.3 to V _{DD} +0.3	
Output current high per 1 PIN	-25	mA
Output current high per all PINs	- 80	
Output current low per 1 PIN	+30	
Output current low per all PINs	+ 150	
Maximum Operating Voltage	5.5	V
Operating Temperature	-40 to +85	°C
Storage Temperature	-65 to +150	

DC Characteristics (T_A = 25°C, V_{DD} = 4.0V to 5.5V)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Operating Voltage	V _{DD}	25°C, F _{sys} = 28.224 MHz	4.0	-	5.5	V	
Input High Voltage	V _{IH}	V _{DD} = 5V	0.6V _{DD}	-	-	V	
Input Low Voltage	V _{IL}	All Input	-	-	0.2V _{DD}	V	
I/O Port Source Current	I _{OH}	All Output	V _{DD} = 5V V _{OH} = 0.9V _{DD}	4	8	-	mA
I/O Port Sink Current	I _{OL}	All Output	V _{DD} = 5V V _{OH} = 0.9V _{DD}	10	20	-	mA
		High sink current pins	V _{DD} = 5V V _{OL} = 0.1V _{DD}	20	40	-	
Input Leakage Current (pin high)	I _{ILH}	All Input	V _{IN} = V _{DD}	-	-	1	uA
Input Leakage Current (pin low)	I _{ILL}	All Input	V _{IN} = 0V	-	-	-1	
Supply Current	I _{DD}	Normal Mode	V _{DD} = 5V FXT=28.224Mhz	-	8	-	mA
		STOP Mode	V _{DD} = 5V	-	1.0	-	uA
LVR Reference Voltage	V _{LVR}	T _A = 25°C	-	2.0	-	V	
LVR Hysteresis Voltage	V _{HYST}	T _A = 25°C	-	2.9	-	V	
			-	±0.1	-	V	
Low Voltage Detection Time	T _{LVR}	T _A = 25°C	100	-	-	us	

A5/ A11 ASSEMBLY



* Features and specification are subject to change without notice.



DIGIMORE ELECTRONICS CO., LTD
 10 Fl., No. 61, Yan-Ping S. Rd., Taipei 100, Taiwan
 TEL: +886 2 2311 3299 FAX: +886 2 2311 3375
 Email: info@digimore.com.tw <https://www.digimore.com.tw>