

## TOM10-AE(BE) series

### **Typical Performance**

### **FEATURES**

- Wide Input voltage range (2:1/4:1)
- Typical Efficiency:80%
- Switching frequency: 300KHz
- Short circuit protection,Self-furbish
- Input-output isolate 1500VDC
- PCB Board in-line type installs
- Metal case, Low Output Ripple



**Technology parameter** Test condition:General Nominal Line,Tc=25°C , Rated resistant load unless other wisespecified

<b>Input Feature</b>	<b>Min</b>	<b>Nom</b>	<b>Max</b>	<b>Notes</b>
Input voltage(Vdc)	9(start voltage 9.5V)	12	18	2:1
	18	24	36	2:1
	36	48	72	2:1
	72	110	144	2:1
	9(start voltage 9.5V)	18	36	W 4:1
	18	36	72	W 4:1
Remote ON/OFF				Non

### **Output Feature**

Voltage accuracy		Vo1;Vo2,Vo3	±1.0%, ±3.0%
Line regulation	Nominal Load,full voltage input range	Vo1;Vo2,Vo3	±0.2%, ±1.5%
Load regulation	Nominal Input Voltage,20% ~ 100% Nominal Load	Vo1;Vo2,Vo3	±0.5%, ±3.0%
Ripple and noise	20MHz BM full load Vo≤5.0V, ≤50mVp-p; Vo≥48V, ≤180mVp-p; Other, ≤100mVp-p;test by 20M oscillograph		
Voltage adjust	Standard output voltage	TRIM	±10%(adjustable)
Peak Deviation	25% Rated Load Vary	ΔVo1/ Vo1	≤±5.0%
Dynamic Response Setting Time			≤200us

General Feature			
Efficiency	Normal input , full load		80% typical
Switching frequency			300KHz typical
Operating temperature	Free air	Industrial level	-25°C ~ +55°C
Storage temperature			-40°C ~ +105°C
Max case temperature			+90°C
Relative humidity			10%~90%
case material			Metal case
Isolation Voltage		Input-Output	1500VDC
		Input-Case	1500VDC
		Output-Case	500VDC
Isolation Resistance			10MΩ
Temperature Coefficient			≤±0.02%/°C
Cooling			Natural Convection
MTBF	BELLCORE TR332, (25°C)		2X10 <sup>5</sup> Hrs

NOTE:

(1)The module working environment temperature more than 55 °C need derating use (- 0.15W/°C), but the max shell temperature shall not be more than 90 °C.

(2)Capacitive load:

The output of the module can be applied electrolytic capacitor, but too much capacity and low ESR may cause the module instability, or cause current limiting point become low,we recommend 100 u F/A of the output capacitance , the current is rated

### Product Nomination Method

example	TOM 10 - 48 05 - A E W ① ② ③ ④ ⑤ ⑥ ⑦							
①	Series			⑥	Size			
②	Output power(W)			⑦	Wide voltage input: 4: 1			
③	Normal input voltage							
④	Output voltage							
⑤	A=Single route output, B=Dual route output							

### Product Program

PART	Input voltage range	Output voltage / current					
		VO1		VO2		VO3	
		V	mA	V	mA	V	mA

TOM10-1203-AE	12 V (9~18V)	3.3V	2000mA				
TOM10-1205-AE		5V	2000mA				
TOM10-1209-AE		9V	1110mA				
TOM10-1212-AE		12V	830mA				
TOM10-1215-AE		15V	660mA				
TOM10-1218-AE		18V	556mA				
TOM10-1224-AE		24V	410mA				
TOM10-1228-AE		28V	357mA				
TOM10-1248-AE		48V	208mA				
TOM10-1203-BE		+3.3V	1000 mA	-3.3V	1000 mA		
TOM10-1205-BE		+5V	1000 mA	-5V	1000 mA		
TOM10-1209-BE		+9V	550 mA	-9V	550 mA		
TOM10-1212-BE		+12V	410 mA	-12V	410 mA		
TOM10-1215-BE		+15V	330 mA	-15V	330 mA		
TOM10-1224-BE		+24V	210 mA	-42V	210 mA		
TOM10-1803-AEW	18V(9~36V)	3.3V	2000mA				
TOM10-1805-AEW		5V	2000mA				
TOM10-1809-AEW		9V	1110mA				
TOM10-1812-AEW		12V	830mA				
TOM10-1815-AEW		15V	660mA				
TOM10-1818-AEW		18V	556mA				
TOM10-1824-AEW		24V	410mA				
TOM10-1828-AEW		28V	357mA				
TOM10-1848-AEW		48V	208mA				
TOM10-1803-BEW		+3.3V	1000 mA	-3.3V	1000 mA		
TOM10-1805-BEW		+5V	1000 mA	-5V	1000 mA		
TOM10-1809-BEW		+9V	550 mA	-9V	550 mA		
TOM10-1812-BEW		+12V	410 mA	-12V	410 mA		
TOM10-1815-BEW		+15V	330 mA	-15V	330 mA		
TOM10-1824-BEW		+24V	210 mA	-42V	210 mA		
TOM10-2403-AE	24V (18~36V)	3.3V	2000mA				
TOM10-2405-AE		5V	2000mA				

TOM10-2409-AE	24V (18~36V)	9V	1110mA				
TOM10-2412-AEW		12V	830mA				
TOM10-2415-AE		15V	660mA				
TOM10-2418-AE		18V	556mA				
TOM10-2424-AE		24V	410mA				
TOM10-2428-AE		28V	357mA				
TOM10-2448-AE		48V	208mA				
TOM10-243V3-BE		+3.3V	1000 mA	-3.3V	1000 mA		
TOM10-2405-BE		+5V	1000 mA	-5V	1000 mA		
TOM10-2409-BE		+9V	550 mA	-9V	550 mA		
TOM10-2412-BE		+12V	410 mA	-12V	410 mA		
TOM10-2415-BE		+15V	330 mA	-15V	330 mA		
TOM10-2424-BE		+24V	210 mA	-42V	210 mA		
TOM10-3603-AEW	36V(18~72V)	3.3V	2000mA				
TOM10-3605-AEW		5V	2000mA				
TOM10-3609-AEW		9V	1110mA				
TOM10-3612-AEW		12V	830mA				
TOM10-3615-AEW		15V	660mA				
TOM10-3618-AEW		18V	556mA				
TOM10-3624-AEW		24V	410mA				
TOM10-3628-AEW		28V	357mA				
TOM10-3648-AEW		48V	208mA				
TOM10-3603-BEW		+3.3V	1000 mA	-3.3V	1000 mA		
TOM10-3605-BEW		+5V	1000 mA	-5V	1000 mA		
TOM10-3609-BEW		+9V	550 mA	-9V	550 mA		
TOM10-3612-BEW		+12V	410 mA	-12V	410 mA		
TOM10-3615-BEW		+15V	330 mA	-15V	330 mA		
TOM10-3624-BEW		+24V	210 mA	-42V	210 mA		
TOM10-4803-AE	48V (36~72V)	3.3V	2000mA				
TOM10-4805-AE		5V	2000mA				
TOM10-4809-AE		9V	1110mA				
TOM10-4812-AE		12V	830mA				

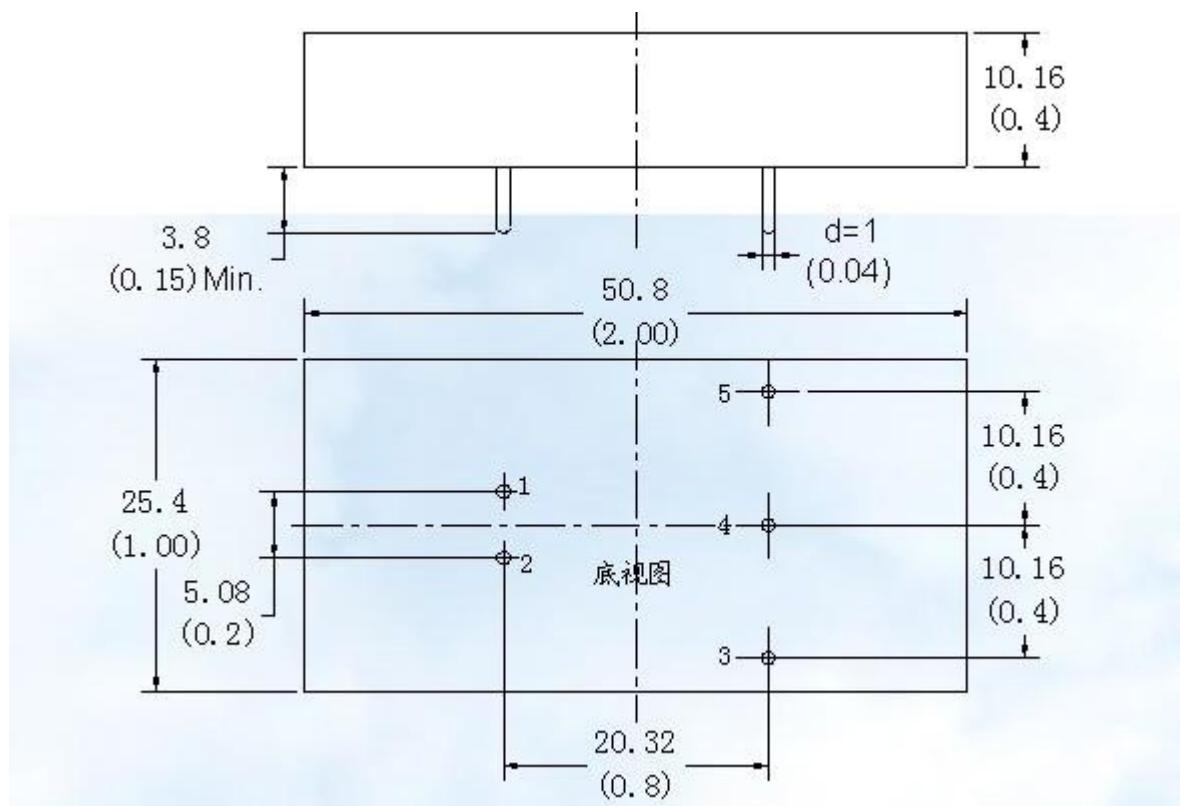
TOM10-4815-AE	110V (72~144V)	15V	660mA			
TOM10-4818-AE		18V	556mA			
TOM10-4824-AE		24V	410mA			
TOM10-4828-AE		28V	357mA			
TOM10-4848-AE		48V	208mA			
TOM10-4803-BE		+3.3V	1000 mA	-3.3V	1000 mA	
TOM10-4805-BE		+5V	1000 mA	-5V	1000 mA	
TOM10-4809-BE		+9V	550 mA	-9V	550 mA	
TOM10-4812-BE		+12V	410 mA	-12V	410 mA	
TOM10-4815-BE		+15V	330 mA	-15V	330 mA	
TOM10-4824-BE		+24V	210 mA	-42V	210 mA	
TOM10-1103-AE	110V (72~144V)	3.3V	2000mA			
TOM10-11005-AE		5V	2000mA			
TOM10-11009-AE		9V	1110mA			
TOM10-11012-AE		12V	830mA			
TOM10-11015-AE		15V	660mA			
TOM10-11018-AE		18V	556mA			
TOM10-11024-AE		24V	410mA			
TOM10-11028-AE		28V	357mA			
TOM10-11048-AE		48V	208mA			
TOM10-11003-BE		+3.3V	1000 mA	-3.3V	1000 mA	
TOM10-11005-BE		+5V	1000 mA	-5V	1000 mA	
TOM10-11009-BE		+9V	550 mA	-9V	550 mA	
TOM10-11012-BE		+12V	410 mA	-12V	410 mA	
TOM10-11015-BE		+15V	330 mA	-15V	330 mA	
TOM10-11024-BE		+24V	210 mA	-42V	210 mA	

NOTE:

(1)This series, if the nominal input is 12V,the module does not support long time short circuit protection, short time should be controlled within 20 S.

(2)The output ripple noise (peak value) measurement, please reference module test instructions.

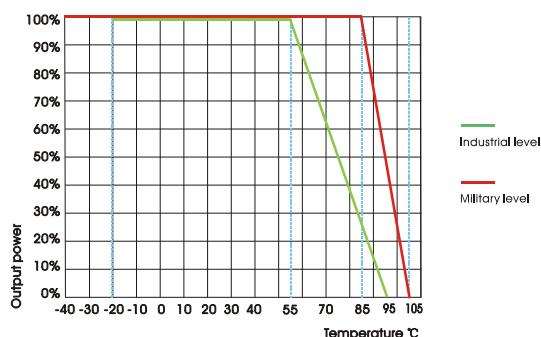
## Mechanical Dimension



BOTTON VIEW

UNIT:mm(inch)

## Temperature Curve



## Mechanical Data

WATT	L x W x H	Packing No.
10W	50.80*25.40*10.16mm(2*1*0.4inch)	B

## Pin Assignment

PIN	1	2	3	4	5				
Single O/P	+Vin	-Vin	GND	NP	Vo				
Dual O/P	+Vin	-Vin	-Vo2	COM	+Vo1				

\*Note: The power modules such as the definition of the pin does not match with the hand book,please refer to the actual item.