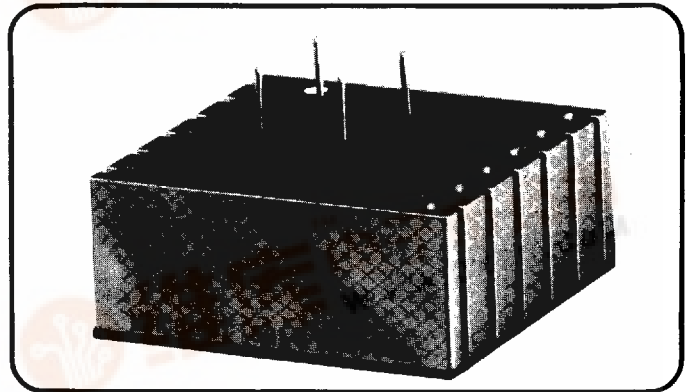# TS2000 Transient Suppression and Inrush Current Limiting Module

Features:

- **Positive Transient Protection to MIL-STD-704A**
- **In-Rush Current Limiting**
- **Low Insertion Loss**

Transient Suppression and In-Rush Limiting Module

The TS2000 module provides inrush current limiting and voltage surge suppression to protect the ICECUBE™ CMD line of DC-DC converters and applicable Cirkitblock™ systems/modules from positive transients of MIL-STD-704A, B, C and D.

SPECIFICATIONS

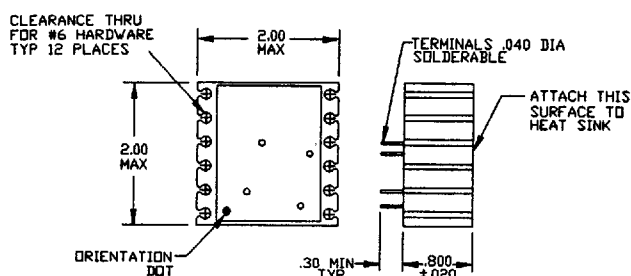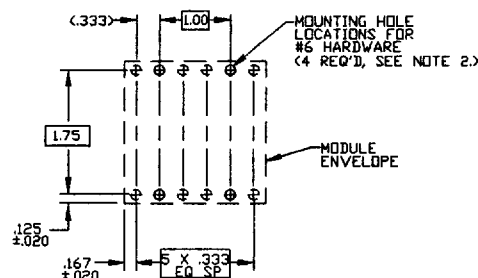|	
Input Voltages:	16-36 VDC plus positive input transients per MIL-STD-704A, B, C, D
Output Voltages:	16-36 VDC, Output is clamped at 39V ± 1V during input transient
Rated Current:	9 Amps (Max), continuous
Insertion Loss:	Output is typically 0.3V below input voltage
Efficiency:	See Figure 1 (typical)
Inrush Current:	See Figure 2
Operating Temperature:	−55°C to +100°C (case)
Storage Temperature:	−65°C to +125°C
Weight:	4.5 oz. (127.6 gms)
Terminals:	0.040″ diameter, solderable per MIL-T-10727
Case Finish:	Gold anodized per MIL-A-9625-II Class 2 over aluminum

Figure 1.

EFFICIENCY VS. I_O

I_O (AMPS)
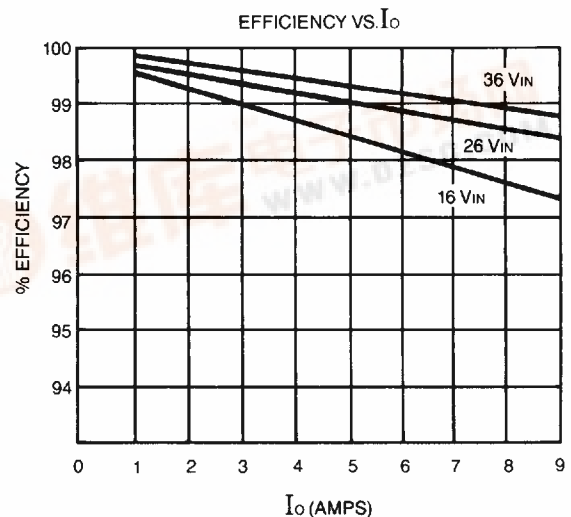
TS2000
Transient Suppression/Inrush Current Limiting Module

DIMENSIONAL DRAWING

MODULE DIMENSIONS

CLEARANCE THRU
FOR #6 HARDWARE
TYP 12 PLACES

2.00 MAX

TERMINALS .040 DIA
SOLDERABLE

ATTACH THIS
SURFACE TO
HEAT SINK

2.00 MAX

ORIENTATION DOT

.30 MIN TYP

.800 ±.020

MOUNTING DIMENSIONS

(.333)

1.00

MOUNTING HOLE
LOCATIONS FOR
#6 HARDWARE
(4 REQ'D, SEE NOTE 2.)

1.75

MODULE ENVELOPE

.125 ±.020

.167 ±.020

5 X .333
EQ SP

NOTES:
1. ALL DIMENSIONS IN INCHES
2. A TOTAL OF 4 MOUNTING SCREWS ARE RECOMMENDED, 2 ON EACH SIDE OF THE MODULE. POWERCUBE SUGGESTS THAT THE 2 SPACED AT 1.00 INCH (SHOWN AS SOLID CIRCLES) BE USED.

APPLICATIONS INFORMATION

1. Do not exceed rated continuous current of TS2000, ex. Limit to (2) 50W CMD modules at full load. Consult factory for higher power inrush current limit applications.

2. Input voltage spikes of greater than 80 volts for 1 microsecond or longer are beyond the requirements of MIL-STD-704A and will require a different but similar voltage surge/inrush current limiter which POWERCUBE can furnish. Higher insertion losses and increase in height of module will result.

TS2000 INRUSH CURRENT

INRUSH CURRENT (y-axis 0–9)
STEADY STATE INPUT CURRENT (x-axis 1–9)

16-36 VDC
plus positive
input transients per
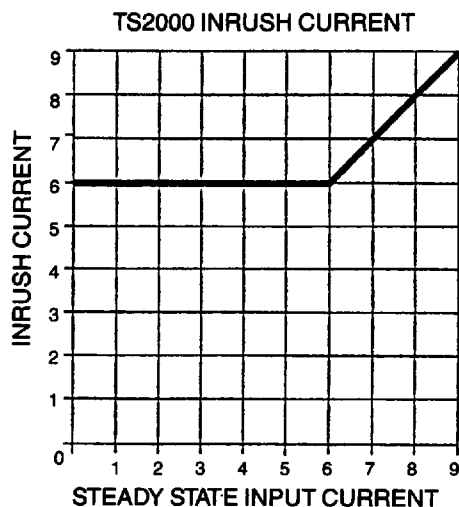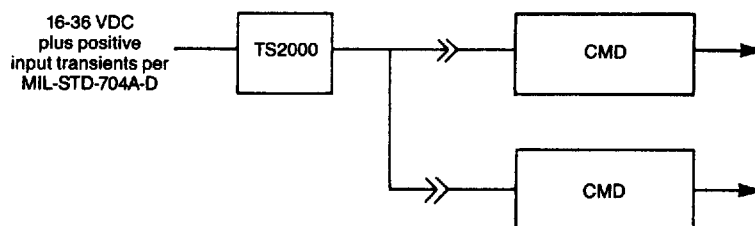MIL-STD-704A-D

TS2000 → CMD

TS2000 → CMD

Figure 2

Note: Refer to Icecube™ catalog for information regarding CMD modules shown.