



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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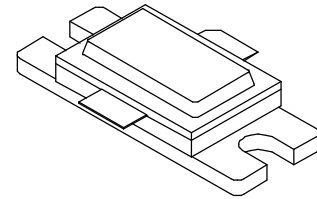
TCS800

800 Watts, 50 Volts, Pulsed
Avionics 1030 MHz

GENERAL DESCRIPTION

The TCS800 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1030 MHz, with the pulse width and duty required for TCAS applications. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. The transistor includes input and output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE 55SM Style 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @25°C¹ 1944 W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces}) 65 V

Emitter to Base Voltage (BV_{ebo}) 3.5 V

Collector Current (I_c) 50 A

Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +230 °C

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{out}	Power Out	F = 1030 MHz	800			W
P _{in}	Power Input	V _{CC} = 50 Volts			126	W
P _g	Power Gain	PW = 32 μsec	8.0	9.0		dB
η _c	Collector Efficiency	DF = 1%		45		%
R _L	Input Return Loss			-12		dB
P _d	Pulse Droop			0.5		dB
VSWR	Load Mismatch Tolerance	F = 1030 MHz			4:1	

FUNCTIONAL CHARACTERISTICS @ 25°C

BV _{ebo} *	Emitter to Base Breakdown	I _e = 70 mA	3.5			V
BV _{ces}	Collector to Emitter Breakdown	I _c = 100 mA	65			V
h _{FE} *	DC – Current Gain	V _{ce} = 5V, I _c = 5A	20			
θ _{jc} ¹	Thermal Resistance				0.09	°C/W

NOTE 1: At rated output power and pulse conditions.

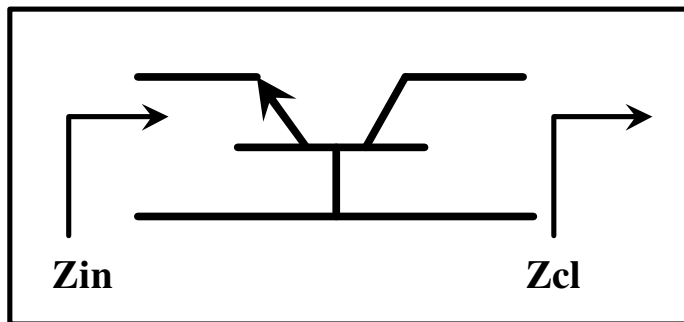
*: Not measurable due to internal EB returns

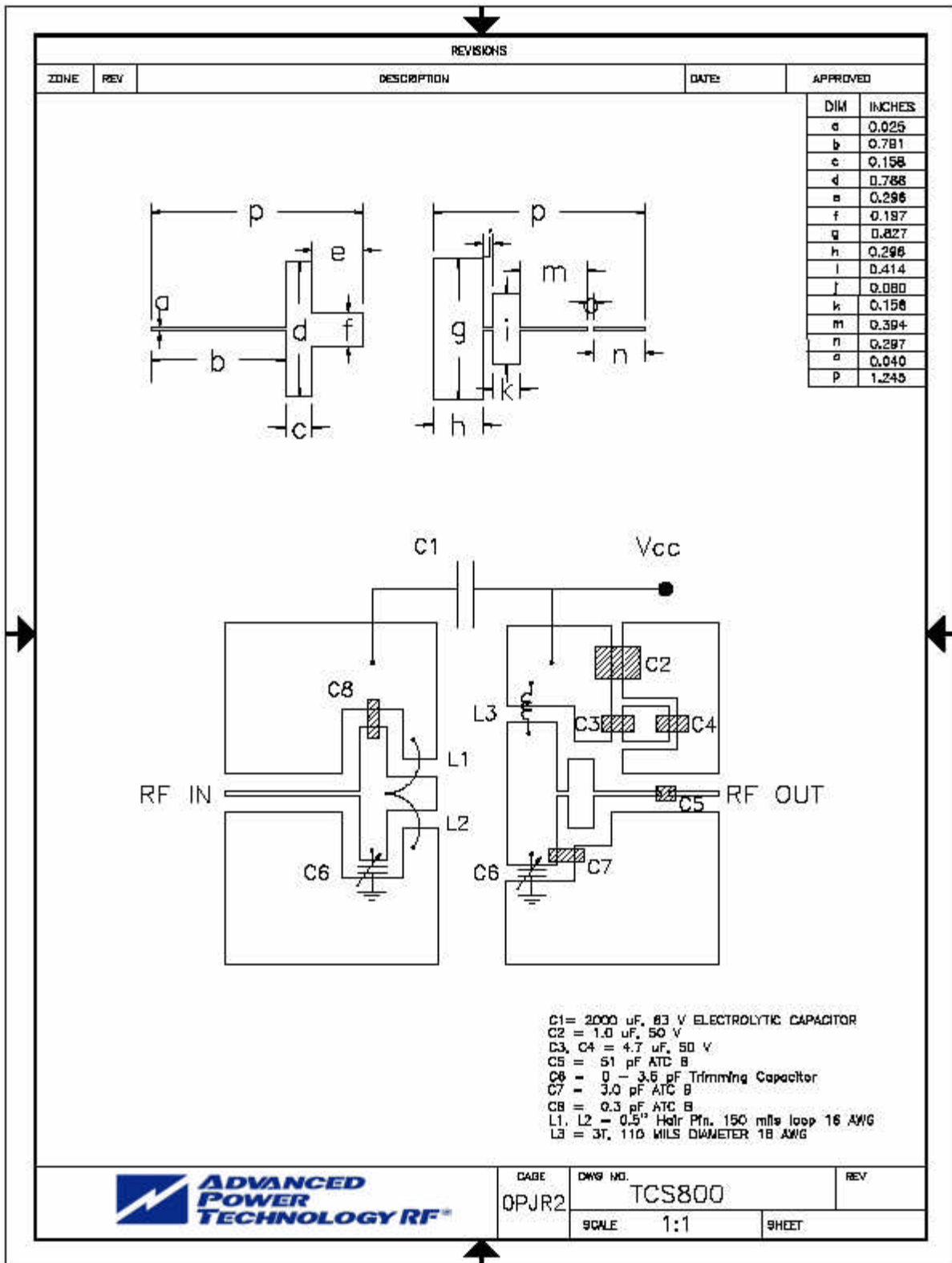
Rev B – Sept. 2005

Advanced Power Technology reserves the right to change, without notice, the specifications and information contained herein. Visit our web site at www.advancedpower.com or contact our factory direct.

TCS800

Freq (MHz)	Zin	Zcl
1030	1.63+j1.59	0.47-j1.14





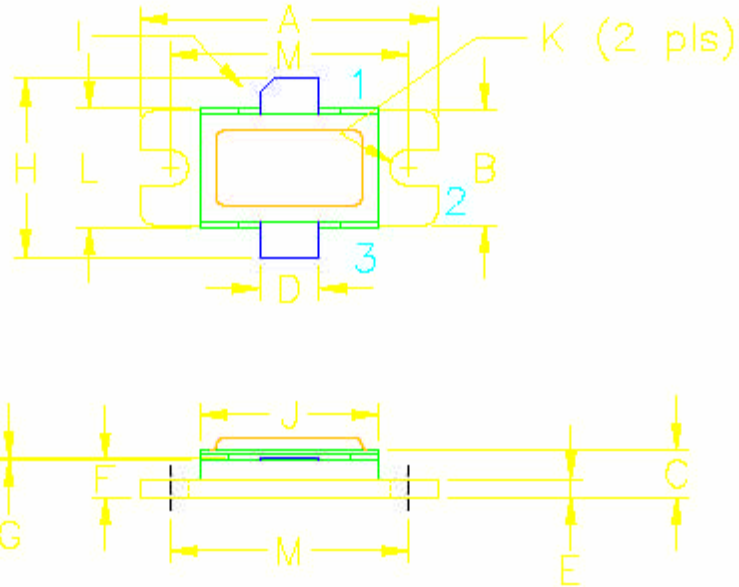
DWG NO.
QPJR2

DWG NO.
TCS800

REV

SCALE 1:1

SHEET



DIM	MILLIMETER	TOL	INCHES	TOL
A	25.40	.25	1.000	.010
B	9.78	.25	.385	.010
C	4.87	.19	.192	.007
D	5.08	.13	.200	.005
E	1.53	.13	.060	.005
F	3.18	.13	.125	.005
G	0.08	+0.06/-0.00	.003	+0.002/-0.010
H	19.05	0.51	.750	.020
I	45°	5°	45°	5°
J	15.24	.25	.600	.010
K	3.05 DIA	.13	.120 DIA	.005
L	10.15	.13	.400	.005
M	20.32	.25	.800	.010

STYLE 1:
 PIN 1 = COLLECTOR
 2 = BASE
 3 = EMITTER

STYLE 2:
 PIN 1 = COLLECTOR
 2 = EMITTER
 3 = BASE

