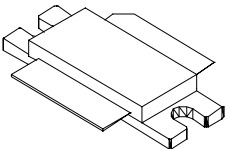




# TCS1200

**1200 Watts, 53 Volts  
Pulsed Avionics at 1030 MHz**

## PRELIMINARY SPECIFICATION

<p><b>GENERAL DESCRIPTION</b></p> <p>The TCS1200 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems at 1030 MHz, with the pulse width and duty required for TCAS applications. The device has gold thin-film metalization and emitter ballasting for proven highest MTTF. The transistor includes input and output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.</p>	<p><b>CASE OUTLINE</b> <b>55TU-1</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p><b>Maximum Power Dissipation</b> Device Dissipation @ 25°C<sup>1</sup>            2095 W</p> <p><b>Maximum Voltage and Current</b> Collector to Base Voltage (BV<sub>ces</sub>)            65 V Emitter to Base Voltage (BV<sub>ebo</sub>)            3.5 V Collector Current (I<sub>c</sub>)                            60 A</p> <p><b>Maximum Temperatures</b> Storage Temperature                            -65 to +200 °C Operating Junction Temperature            +200 °C</p>	

## ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>out</sub>	Power Out	Pulse Width = 32μs Duty Factor = 2%	1200			W
P <sub>g</sub>	Power Gain		10.2			dB
η <sub>c</sub>	Collector Efficiency	F = 1030 MHz, V <sub>cc</sub> = 53 Volts Pin = 115 Watts	45			%
R <sub>L</sub>	Return Loss		-10			dB
Tr	Rise Time				100	ns
Pd	Pulse Droop				0.7	dB
VSWR	Load Mismatch Tolerance <sup>1</sup>			3.0:1		

## FUNCTIONAL CHARACTERISTICS @ 25°C

BV <sub>ebo</sub>	Emitter to Base Breakdown	I <sub>e</sub> = 40 mA	3.5			V
BV <sub>ces</sub>	Collector to Emitter Breakdown	I <sub>c</sub> = 100 mA	65			V
h <sub>FE</sub>	DC – Current Gain	V <sub>ce</sub> = 5V, I <sub>c</sub> = 5A	20			
θ <sub>jc</sub> <sup>1</sup>	Thermal Resistance				0.02	°C/W

NOTES: 1. At rated output power and pulse conditions

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