



TCS1200

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

PRELIMINARY SPECIFICATION

GENERAL DESCRIPTION

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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @ 25°C¹ 2095 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) 60 A

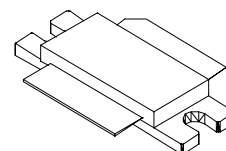
Maximum Temperatures

Storage Temperature -65 to +200 °C

Operating Junction Temperature +200 °C

CASE OUTLINE

55TU-1



ELECTRICAL CHARACTERISTICS @ 25°C

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

FUNCTIONAL CHARACTERISTICS @ 25°C

BV _{ebo}	Emitter to Base Breakdown	I _e = 40 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				0.02	°C/W

NOTES: 1. At rated output power and pulse conditions

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