GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

1617-35

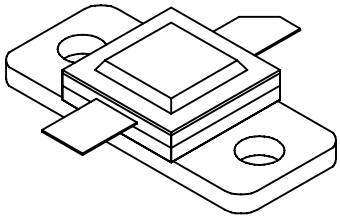
35 Watts, 28 Volts, Pulsed
Radar 1540 - 1660 MHz

ADVANCED ISSUE

GENERAL DESCRIPTION

The 1617-35 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1540 – 1660 MHz. The transistor includes input and output prematch for broadband performance. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. Low thermal resistance Solder Sealed Package reduces junction temperature, extends life.

CASE OUTLINE
55AT



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @25°C	290	W

Maximum Voltage and Current

Collector to Base Voltage (BV_{ces})	50	V
Emitter to Base Voltage (BV_{ebo})	3.0	V
Collector Current (I_c)	6	A

Maximum Temperatures

Storage Temperature	-65 to +200	°C
Operating Junction Temperature	+200	°C

ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	F = 1660 MHz	35			W
P_{in}	Power Input	Vcc = 28 Volts			6	W
P_g	Power Gain	PW = Note 1	7.6			dB
η_c	Collector Efficiency	DF = Note 1		50		%
VSWR	Load Mismatch Tolerance	F = 1540 MHz			10:1	

FUNCTIONAL CHARACTERISTICS @ 25°C

BV_{ebo}	Emitter to Base Breakdown	Ie = 20 mA	3.0			V
BV_{ces}	Collector to Emitter Breakdown	Ic = 60 mA	50			V
h_{FE}	DC – Current Gain	Vce = 5V, Ic = 500mA	20			
θjc^2	Thermal Resistance				0.6	°C/W

NOTE 1: 5 µs at 15% Duty
2. At rated pulse conditions

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GHz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120