



PTB 20155

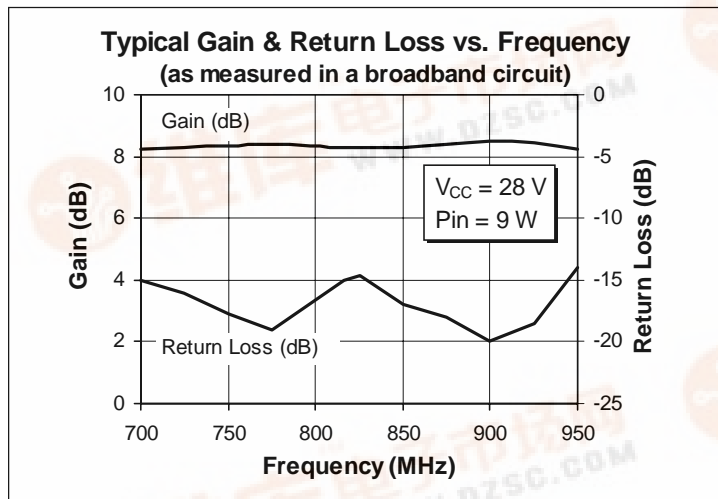
9 Watts, 610–960 MHz

UHF Power Transistor

Description

The 20155 is an NPN common base RF power transistor intended for 28 Vdc class C operation from 610 to 960 MHz. Rated at 9 watts minimum output power, it may be used for both CW and PEP applications. Ion implantation, nitride surface passivation and gold metallization are used to ensure excellent device reliability. 100% lot traceability is standard.

- 9 Watts, 610–960 MHz
- Class C Characteristics
- Gold Metallization
- Silicon Nitride Passivated



Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CER}	40	Vdc
Collector-Base Voltage	V_{CBO}	50	Vdc
Emitter-Base Voltage (collector open)	V_{EBO}	4	Vdc
Collector Current (continuous)	I_C	6.7	Adc
Total Device Dissipation at $T_{flange} = 25^\circ\text{C}$ Above 25°C derate by	P_D	65 0.37	Watts W/ $^\circ\text{C}$
Storage Temperature Range	T_{STG}	-40 to +150	$^\circ\text{C}$
Thermal Resistance ($T_{flange} = 70^\circ\text{C}$)	$R_{\theta JC}$	2.7	$^\circ\text{C}/\text{W}$



Electrical Characteristics (100% Tested)

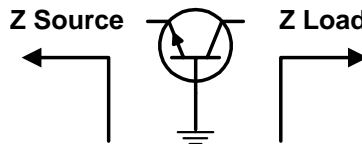
Characteristic	Conditions	Symbol	Min	Typ	Max	Units
Breakdown Voltage C to E	$V_{BE} = 0\text{ V}, I_C = 5\text{ mA}$	$V_{(BR)CES}$	50	—	—	Volts
Breakdown Voltage E to B	$I_C = 0\text{ A}, I_E = 5\text{ mA}$	$V_{(BR)EBO}$	3.5	—	—	Volts
DC Current Gain	$V_{CE} = 5\text{ V}, I_C = 300\text{ mA}$	h_{FE}	25	—	100	—
Output Capacitance	$V_{CB} = 28\text{ V}, I_E = 0\text{ A}, f = 1\text{ MHz}$	C_{ob}	—	10.5	11	pF
Collector Cut-off Current	$V_{CB} = 28\text{ V}, I_E = 0\text{ A}$	I_{CBO}	—	—	1.5	mA

RF Specifications (100% Tested)

Characteristic	Symbol	Min	Typ	Max	Units
Gain ($V_{CC} = 28\text{ Vdc}, P_{out} = 9\text{ W}, f = 960\text{ MHz}$)	G_{pe}	8.0	9.0	—	dB
Collector Efficiency ($V_{CC} = 28\text{ Vdc}, P_{out} = 9\text{ W}, f = 960\text{ MHz}$)	η_C	45	53	—	%

Impedance Data (data shown for fixed-tuned broadband circuit)

($V_{CC} = 28\text{ Vdc}, P_{out} = 9\text{ W}$)



Frequency	Z Source		Z Load	
	R	jX	R	jX
850	4.4	-10.7	8.6	3.6
900	6.4	-10.0	9.3	4.9
960	6.4	-14.3	7.8	3.1

