

2N6083

NPN SILICON RF POWER TRANSISTORS

... designed for 12.5 Volt VHF large-signal power amplifier applications required in military and industrial equipment operating to 225 MHz.

- Specified 12.5 Volt, 175 MHz Characteristics – Output Power = 30 W – 2N6083

Minimum Gain = 5.7 dB – 2N6083

- Balanced Emitter Construction to provide the designer with the device technology that assures ruggedness and resists transistor damage caused by load mismatch

*MAXIMUM RATINGS

Rating	Symbol	2N6083	Unit
Collector-Emitter Voltage	V _{CEO}	18	Vdc
Collector-Base Voltage	V _{CBO}	36	Vdc
Emitter-Base Voltage	V _{EBO}	4.0	Vdc
Collector Current – Continuous	I _C	4.0	Adc
Total Device Dissipation @ T _C = 75°C(2) Derate above 25°C	P _D	65 0.52	Watts W/°C
Storage Temperature Range	T _{stg}	-65 to +200	°C
Stud Torque(1)	-	6.5	in. lb.

*Indicates JEDEC Registered Data
 (1) For Repeated Assembly Use 5 in. lb.

(2) These devices are designed for RF operation. The total device dissipation rating applies only when the devices are operated as RF amplifiers.

*ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I _C = 100 mA _{dc} , I _B = 0)	BV _{CEO}	18	–	–	Vdc
Collector-Emitter Breakdown Voltage (I _C = 15 mA _{dc} , V _{BE} = 0)	BV _{CES}	36	–	–	Vdc
Emitter-Base Breakdown Voltage (I _E = 5.0 mA _{dc} , I _C = 0)	BV _{EBO}	4.0	–	–	Vdc
Collector Cutoff Current (V _{CE} = 15 Vdc, V _{BE} = 0, T _C = 155°C)	I _{CES}	–	–	10	mA _{dc}
Collector Cutoff Current (V _{CB} = 15 Vdc, I _E = 0)	I _{CBO}	–	–	1.0	mA _{dc}
ON CHARACTERISTICS					
DC Current Gain (I _C = 1.0 A _{dc} , V _{CE} = 5.0 Vdc)	h _{FE}	5.0	–	–	–
DYNAMIC CHARACTERISTICS					
Output Capacitance (V _{CB} = 15 Vdc, I _E = 0, f = 0.1 MHz)	C _{ob}	–	110	130	pF
FUNCTIONAL TEST					
Common-Emitter Amplifier Power Gain (P _{out} = 30 W, V _{CC} = 12.5 Vdc, f = 175 MHz)	G _{PE}	5.7	–	–	dB
Collector Efficiency (P _{out} = 30 W, V _{CC} = 12.5 Vdc, f = 175 MHz)	η	65	–	–	%

