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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 mAdc, I_B = 0)		BV_{CEO}	18	–	–	Vdc
Collector-Emitter Breakdown Voltage (I_C = 15 mAdc, V_{BE} = 0)	2N6083	BV_{CES}	36	–	–	Vdc
Emitter-Base Breakdown Voltage (I_E = 5.0 mAdc, I_C = 0)	2N6083	BV_{EBO}	4.0	–	–	Vdc
Collector Cutoff Current (V_{CE} = 15 Vdc, V_{BE} = 0, T_C = +55°C)		I_{CES}	–	–	10	mAdc
Collector Cutoff Current (V_{CB} = 15 Vdc, I_E = 0)	2N6083	I_{CBO}	–	–	1.0	mAdc
ON CHARACTERISTICS						
DC Current Gain (I_C = 1.0 Adc, V_{CE} = 5.0 Vdc)		h_{FE}	5.0	–	–	–
DYNAMIC CHARACTERISTICS						
Output Capacitance (V_{CB} = 15 Vdc, I_E = 0, f = 0.1 MHz)	2N6083	C_{ob}	–	110	130	pF
FUNCTIONAL TEST						
Common-Emitter Amplifier Power Gain (P_{out} = 30 W, V_{CC} = 12.5 Vdc, f = 175 MHz)	2N6083	G_{PE}	5.7	–	–	dB
Collector Efficiency (P_{out} = 30 W, V_{CC} = 12.5 Vdc, f = 175 MHz)	2N6083	η	65	–	–	%