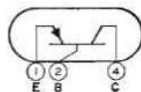


2N1631

TRANSISTOR

Germanium p-n-p type used in radio-frequency amplifier applications in battery-operated AM portable radio receivers. In an unneutralized rf amplifier circuit, this type can provide a power gain of 25.6 db



at 1.5 megacycles. JEDEC No. TO-40 package; outline 15, Outlines Section.

MAXIMUM RATINGS

Collector-to-Base Voltage (with emitter open)	-34 max	volts
Emitter-to-Base Voltage (with collector open)	-0.5 max	volt
Collector Current	-10 max	ma
Emitter Current	10 max	ma
Transistor Dissipation:		
At ambient temperatures up to 25°C	80 max	mw
At ambient temperature of 55°C	50 max	mw
At ambient temperature of 71°C	35 max	mw
Ambient-Temperature Range:		
Operating	-65 to 71	°C
Storage	-65 to 85	°C

CHARACTERISTICS

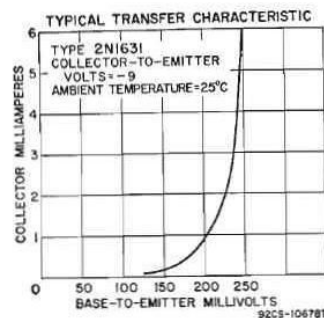
Collector-to-Base Breakdown Voltage (with collector μ a = -50 and emitter current = 0)	-34 min	volts
Collector-Cutoff Current (with collector-to-base volts = -12 and emitter current = 0)	-16 max	μ a
Emitter-Cutoff Current (with emitter-to-base volts = -0.5 and collector current = 0)	-16 max	μ a
Thermal Resistance:		
Junction-to-ambient	0.4 max	°C/mw

In Common-Base Circuit

Small-Signal Forward Current-Transfer Ratio (with collector-to-base volts = -12, collector ma = -1, and frequency = 1 kilocycle)	0.987	
Small-Signal Forward-Current-Transfer-Ratio Cutoff Frequency (with collector-to-base volts = -12 and collector ma = -1)	45	Mc

In Common-Emitter Circuit

DC Forward Current-Transfer Ratio (with collector-to-emitter volts = -12, collector ma = -1, and frequency = 1 kilocycle)	80	
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TYPICAL OPERATION

DC Collector-Supply Voltage	-6	-9	-12	volts
DC Collector-to-Emitter Voltage	-5.7	-8.5	-11	volts
DC Collector Current	-1	-1	-1	ma
Signal Frequency	1.5	1.5	1.5	Mc
Input Resistance (with ac output circuit shorted)	520	750	1000	ohms
Output Resistance (with ac input circuit shorted)	0.065	0.11	0.18	megohm
Extrinsic Transconductance	36000	36000	36000	μ mhos
Collector-to-Base Capacitance	2.2	2.1	2	pf
Maximum Power Gain	40.4	44.3	47.7	db
Useful Power Gain:				
In unneutralized circuit	25.3	25.5	25.6	db

