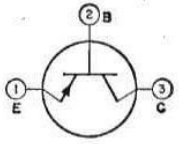
TRANSISTOR

2N591

Germanium p-n-p type used in large-signal audio-frequency driver-amplifier applications. It is used primarily in high-gain class A audio-driver stages in automobile radio receivers. JEDEC No. TO-1 package; outline 4, Outlines Section.



MAXIMUM RATINGS

Collector-to-Emitter Voltage		−32 max	volts
Collector Current:			
Peak		−40 max	ma
DC		−20 max	ma
Emitter Current:			
Peak		40 max	ma
DC		20 max	ma
	With heat sink	*Without heat sink*	
Collector Dissipation:			
At ambient temperatures up to 55°C	100	50	mw
At ambient temperature of 71°C	40	20	mw
Ambient-Temperature Range:			
Operating		71 max	°C
Storage		−65 to 85	°C

CHARACTERISTICS

Collector-to-Emitter Breakdown Voltage (with collector ma = −0.3, base resistance = 4700 ohms, and emitter resistance = 500 ohms)	−32 min	volts
Collector-Cutoff Current (with collector-to-base volts = −10 and emitter current = 0)	−7 max	μa
Emitter-Cutoff Current (with emitter-to-base volts = −1 and collector current = 0)	−20 max	μa
Thermal Resistance:		
Junction-to-ambient	0.34	°C/mw
Junction-to-heat sink	0.15	°C/mw

In Common-Emitter Circuit

DC Forward Current-Transfer Ratio at 1 kilocycle (with collector-to-emitter volts = −12 and collector ma = −2)	70	
Small-Signal Forward-Current-Transfer-Ratio Cutoff Frequency (with collector-to-emitter volts = −12 and collector ma = −2)	0.7	Mc

TYPICAL OPERATION IN CLASS A AF DRIVER-AMPLIFIER CIRCUIT

DC Collector Supply Voltage	−14.4	volts
DC Collector-to-Emitter Voltage	−12	volts
DC Base-to-Emitter Voltage	−0.13	volt
DC Collector Current	−2	ma
Signal Frequency	1	kc
Input Resistance	1000	ohms
Output Resistance	10000	ohms
Power Gain	41	db
Total Harmonic Distortion	3	per cent
Transistor Dissipation	25	mw
Power Output	5	mw