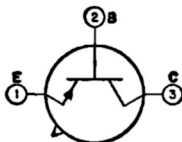# TRANSISTOR

2N404
2N404A

Germanium p-n-p types used in medium-speed switching applications in data-processing equipment. These types also have wide application in other low-level, medium-speed "on-off" control circuits.

JEDEC No. TO-5 package; outline 6, Outlines Section.

MAXIMUM RATINGS

	2N404	2N404A	
Collector-to-Base Voltage (with emitter open)	—25 max	—40 max	volts
Collector-to-Emitter Voltage			
(with emitter-to-base volts = —1)	—24 max	—35 max	volts
Emitter-to-Base Voltage (with collector open)	—12 max	—25 max	volts
Collector Current	—100 max	—150 max	ma
Emitter Current	100 max	150 max	ma
Transistor Dissipation:			
At ambient temperatures up to 25°C	150 max	150 max	mw
At ambient temperatures above 25°C	See curve page 80		
Ambient-Temperature Range:			
Operating ....,	—65 to 85	—65 to 100	°C
Storage	—65 to 100	—65 to 100	°C
Lead Temperature (for 10 seconds maximum) ..	255 max	255 max	°C

CHARACTERISTICS

Collector-to-Emitter Saturation Voltage:		
With collector ma = —12 and base ma = —0.4	—0.15 max	volt
With collector ma = —24 and base ma = —1	—0.2 max	volt
Base-to-Emitter Saturation Voltage:		
With collector ma = —12 and base ma = —0.4	—0.35 max	volt
With collector ma = —24 and base ma = —1	—0.40 max	volt
Collector-Cutoff Current (with collector-to-base volts = —12		
and emitter current = 0)	—5 max	μa
Stored Base Charge (with collector ma = —10 and base ma = —1)	—1400 max	pcoul

In Common-Base Circuit

Collector-to-Base Capacitance (with collector-to-base volts = —6		
and collector current = 0)	20 max	pf
Forward-Current-Transfer-Ratio Cutoff Frequency (with		
collector-to-base volts = —6 and collector ma = —1)	4 min	Mc

In Common-Emitter Circuit

DC Forward Current-Transfer Ratio:		
With collector-to-emitter volts = —0.2 and collector ma = —24	24 min	
With collector-to-emitter volts = —0.15 and collector ma = —12	30 min	