



Data Sheet No. 2N6988

**Type 2N6988**  
**Geometry 0600**  
**Polarity PNP**  
**Qual Level: JAN - JANS**

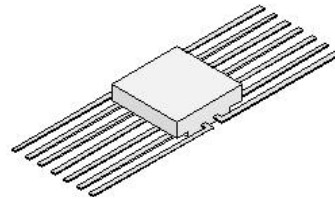
**Generic Part Number:**  
**2N6988**

**REF: MIL-PRF-19500/558**

**Features:**

[Request Quotation](#)

- General purpose silicon transistor for switching and amplifier applications.
- Housed in a [14-Lead Flat Package](#).
- Also available in chip form using the [0600](#) chip geometry.
- The Min and Max limits shown are per [MIL-PRF-19500/558](#) which Semicoa meets in all cases.
- The **Typ** values are actual batch averages for Semicoa.
- [Radiation Graphs available](#).



14L-FlatPack

**Maximum Ratings**

$T_C = 25^{\circ}\text{C}$  unless otherwise specified

Rating	Symbol	Rating	Unit
Collector-Emitter Voltage	$V_{CEO}$	60	V
Collector-Base Voltage	$V_{CBO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current, Continuous	$I_C$	600	mA
Operating Junction Temperature	$T_J$	-65 to +200	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-65 to +200	$^{\circ}\text{C}$

### Electrical Characteristics

$T_C = 25^\circ\text{C}$  unless otherwise specified

OFF Characteristics	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage $I_C = 10 \mu\text{A}$	$V_{(BR)CBO}$	60	100	---	V
Collector-Emitter Breakdown Voltage $I_C = 10 \text{mA}$	$V_{(BR)CEO}$	60	70	---	V
Emitter-Base Breakdown Voltage $I_E = 10 \mu\text{A}$ , pulsed	$V_{(BR)EBO}$	5.0	9.0	---	V
Collector-Base Cutoff Current $V_{CB} = 50 \text{V}$	$I_{CBO1}$	---	0.25	10	nA
Emitter-Base Cutoff Current $V_{EB} = 3.5 \text{V}$	$I_{EBO}$	---	0.1	50	nA

ON Characteristics	Symbol	Min	Typ	Max	Unit
<b>DC Current Gain</b>					
$I_C = 100 \mu\text{A}$ , $V_{CE} = 10 \text{V}$	$h_{FE1}$	75	225	---	---
$I_C = 1.0 \text{mA}$ , $V_{CE} = 10 \text{V}$	$h_{FE2}$	100	250	450	---
$I_C = 10 \text{mA}$ , $V_{CE} = 10 \text{V}$	$h_{FE3}$	100	---	---	---
$I_C = 150 \text{mA}$ , $V_{CE} = 10 \text{V}$ (pulse test)	$h_{FE4}$	100	180	300	---
$I_C = 500 \text{mA}$ , $V_{CE} = 10 \text{V}$ (pulse test)	$h_{FE5}$	50	80	---	---
<b>Collector-Emitter Saturation Voltage</b>					
$I_C = 150 \text{mA}$ , $I_B = 15 \text{mA}$ (pulse test)	$V_{CE(sat)1}$	---	0.18	0.4	V dc
$I_C = 500 \text{mA}$ , $I_B = 50 \text{mA}$ (pulse test)	$V_{CE(sat)2}$	---	0.5	1.6	V dc
<b>Base-Emitter Saturation Voltage</b>					
$I_C = 150 \text{mA}$ , $I_B = 15 \text{mA}$ (pulse test)	$V_{BE(sat)1}$	---	0.87	1.3	V dc
$I_C = 500 \text{mA}$ , $I_B = 50 \text{mA}$ (pulse test)	$V_{BE(sat)2}$	---	1.0	2.6	V dc

Small Signal Characteristics	Symbol	Min	Typ	Max	Unit
Short Circuit Forward Current Transfer Ratio $I_C = 1 \text{mA}$ , $V_{CE} = 10 \text{V}$ , $f = 1 \text{kHz}$	AC $h_{FE}$	100	250	---	---
Open Circuit Output Capacitance $V_{CB} = 10 \text{V}$ , $I_E = 0 \text{V}$ , $100 \text{kHz} < f < 1 \text{MHz}$	$C_{OBO}$	---	6.0	8.0	pF
Input Capacitance, Output Open Circuited $V_{EB} = 2.0 \text{V}$ , $I_C = 0$ , $100 \text{kHz} < f < 1 \text{MHz}$	$C_{IBO}$	---	8.0	30	pF

Switching Characteristics	Symbol	Min	Typ	Max	Unit
Saturated Turn On Switching Time to 90% 16V, 50 ohm input pulse	$t_{ON}$	---	25	45	ns
Saturated Turn Off Switching Time to 10% 16V, 50 ohm input pulse	$t_{OFF}$	---	200	300	ns

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