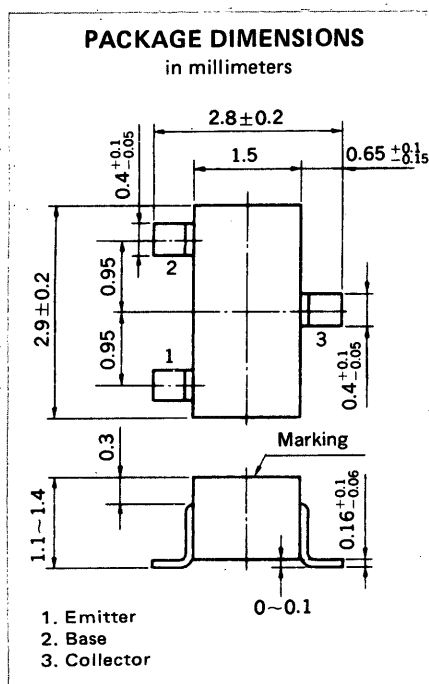


**HIGH VOLTAGE AMPLIFIER AND SWITCHING
NPN SILICON EPITAXIAL TRANSISTOR
MINI MOLD**

FEATURES

- High Voltage $V_{CEO} = 200\text{ V}$
- High DC Current Gain $h_{FE} = 90$ to 450
- Complementary to 2SA1330

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current ($T_a = 25^\circ\text{C}$)

Collector to Base Voltage	V_{CBO}	200	V
Collector to Emitter Voltage	V_{CEO}	200	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	100	mA

Maximum Power Dissipation

Total Power Dissipation at 25°C Ambient Temperature	P_T	200	mW
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Maximum Temperatures

Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

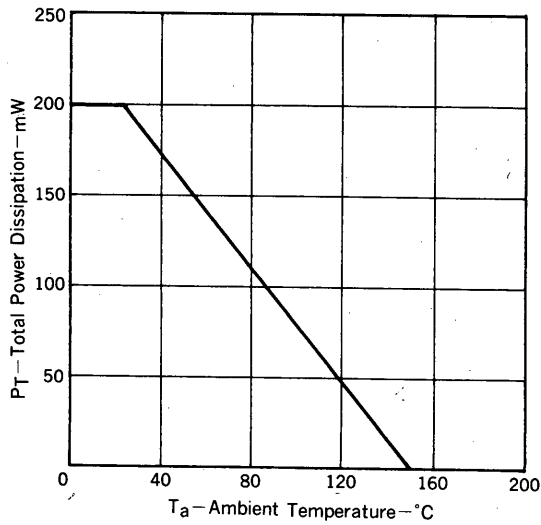
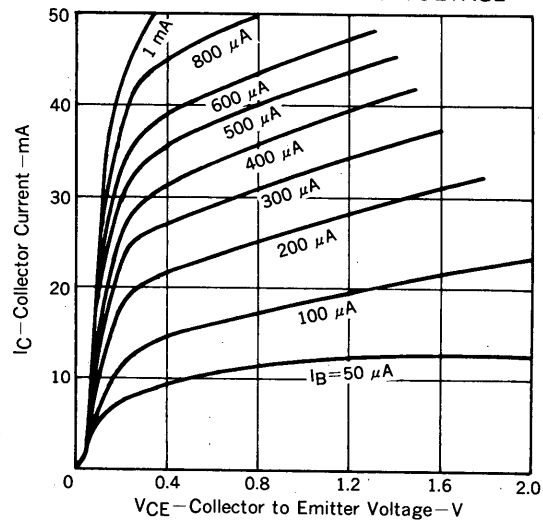
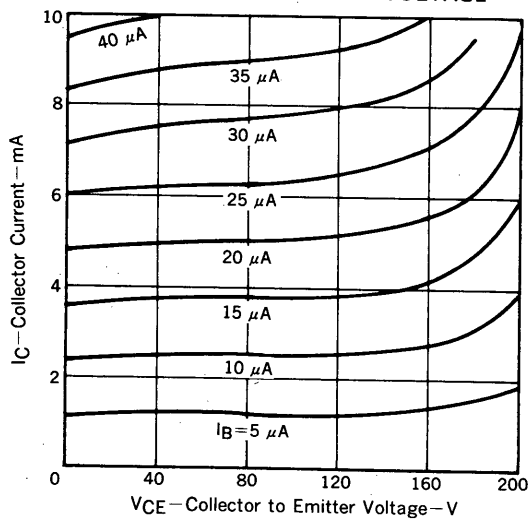
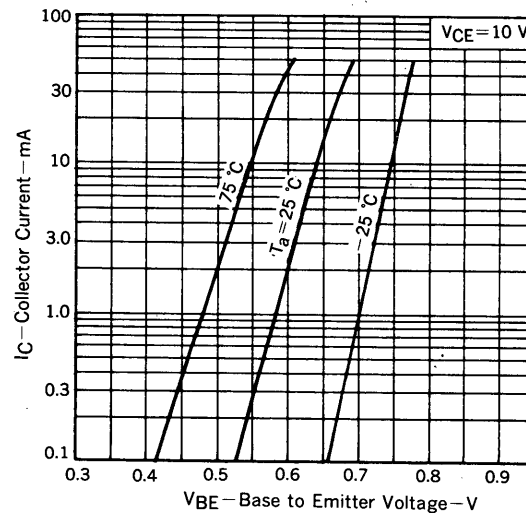
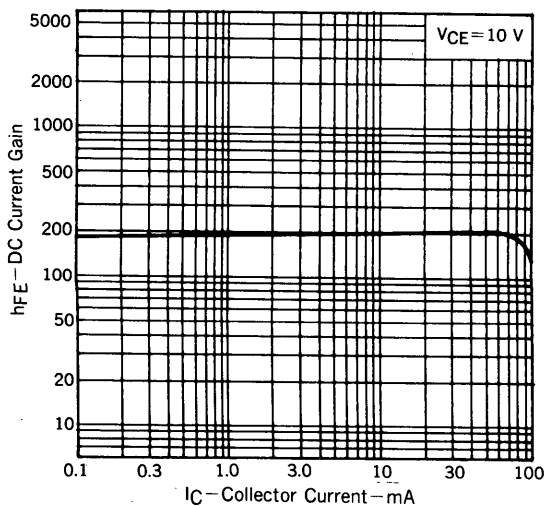
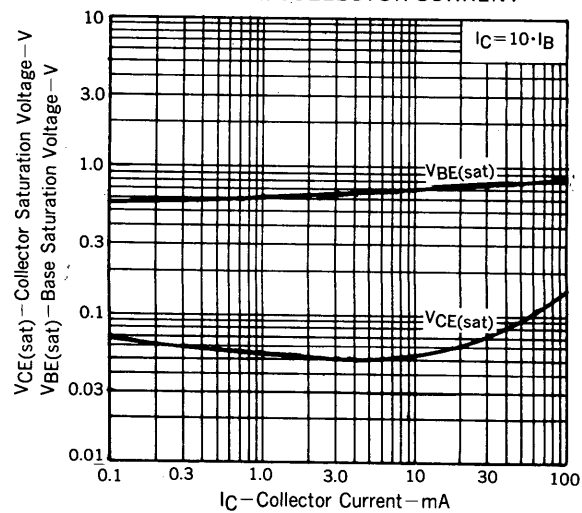
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

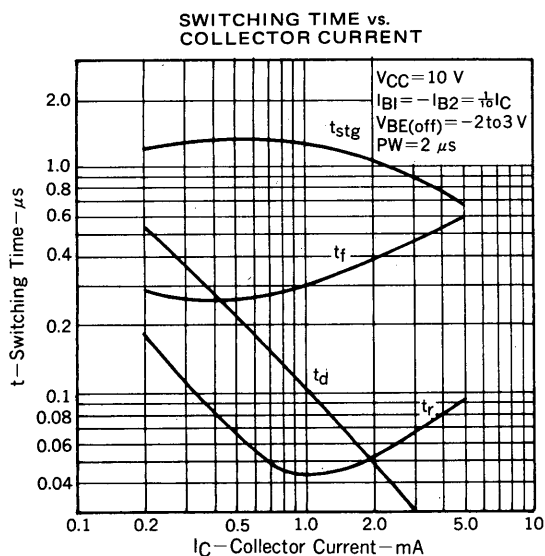
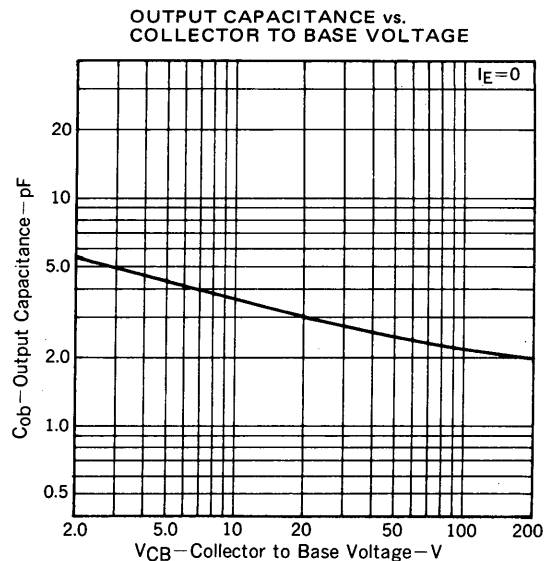
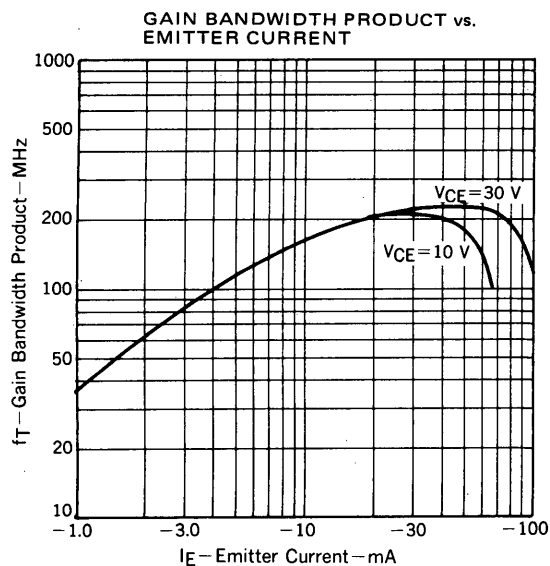
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	$V_{CB} = 200\text{ V}, I_E = 0$
Emitter Cutoff Current	I_{EBO}			100	nA	$V_{EB} = 5.0\text{ V}, I_C = 0$
DC Current Gain	h_{FE1}^*	90	200	450		$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$
DC Current Gain	h_{FE2}^*	50	200			$V_{CE} = 10\text{ V}, I_C = 50\text{ mA}$
Base to Emitter Voltage	V_{BE}^*	0.6	0.64	0.7	V	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)}^*$		0.1	0.3	V	$I_C = 50\text{ mA}, I_B = 5.0\text{ mA}$
Base Saturation Voltage	$V_{BE(sat)}^*$		0.8	1.2	V	$I_C = 50\text{ mA}, I_B = 5.0\text{ mA}$
Gain Bandwidth Product	f_T		160		MHz	$V_{CE} = 10\text{ V}, I_E = -10\text{ mA}$
Output Capacitance	C_{ob}		2.8		pF	$V_{CB} = 30\text{ V}, I_E = 0, f = 1.0\text{ MHz}$
Turn-on Time	t_{on}		0.15		μs	$V_{CC} = 10\text{ V}, V_{BE(off)} = -2.5\text{ V}$ $I_C = 10\text{ mA}$ $I_{B1} = -I_{B2} = 1.0\text{ mA}$
Storage Time	t_{stg}		1.3		μs	
Turn-off Time	t_{off}		0.3		μs	

* Pulsed: $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

 h_{FE} Classification

Marking	N15	N16	N17
h_{FE1}	90 to 180	135 to 270	200 to 450

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)TOTAL POWER DISSIPATION vs.
AMBIENT TEMPERATURECOLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGECOLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGECOLLECTOR CURRENT vs.
BASE TO EMITTER VOLTAGEDC CURRENT GAIN vs.
COLLECTOR CURRENTBASE AND COLLECTOR SATURATION
VOLTAGE vs. COLLECTOR CURRENT



NEC Corporation

INTERNATIONAL ELECTRON DEVICES DIV.
SUMITOMO MITA Building, 37-8,
Shiba Gochome, Minato-ku, Tokyo 108, Japan
Tel: Tokyo 456-3111
Telex Address: NECTOK J22686
Cable Address: NEC TOKYO

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