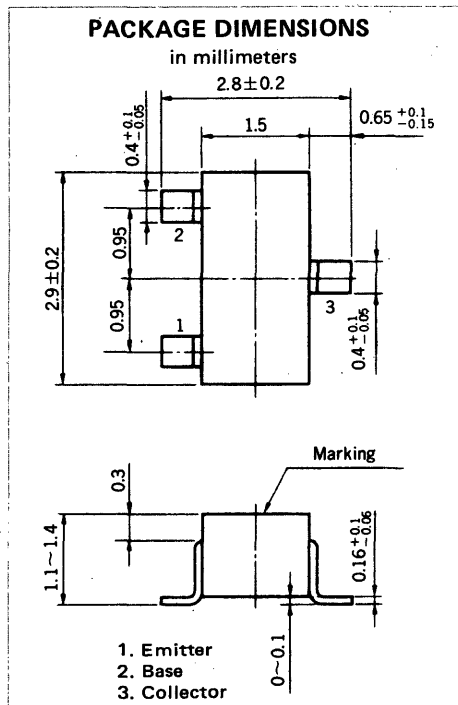


**HIGH SPEED SWITCHING**  
**PNP SILICON EPITAXIAL TRANSISTOR**  
**MINI MOLD**



**FEATURES**

- High Speed Switching :  $t_{on} = 9.0$  ns TYP.  
 $t_{off} = 19.0$  ns TYP.
- High  $f_T$  :  $f_T = 1\ 800$  MHz TYP.
- Low  $C_{ob}$  :  $C_{ob} = 2.0$  pF TYP.
- Complementary to 2SC3735

**ABSOLUTE MAXIMUM RATINGS**

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

Collector to Base Voltage	$V_{CBO}$	-15	V
Collector to Emitter Voltage	$V_{CEO}$	-15	V
Emitter to Base Voltage	$V_{EBO}$	-4.5	V
Collector Current (DC)	$I_C$	-50	mA

Maximum Power Dissipation

Total power Dissipation at $25^\circ\text{C}$ 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 ( $T_a = 25^\circ\text{C}$ )**

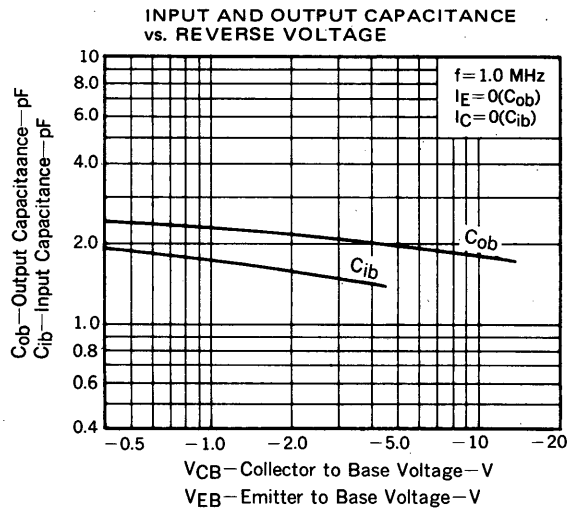
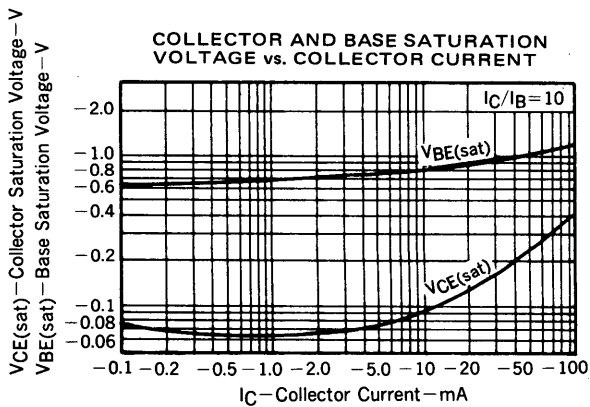
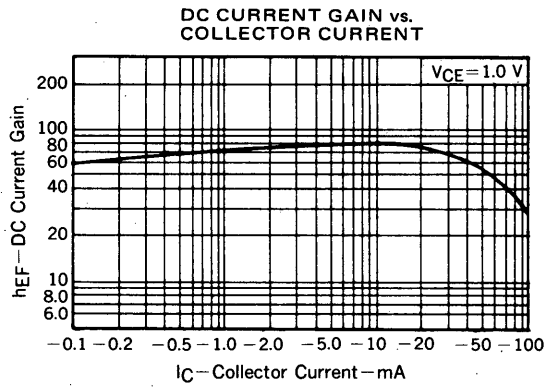
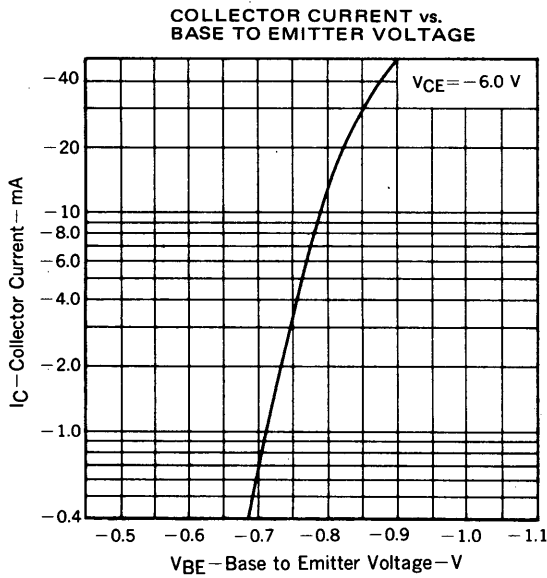
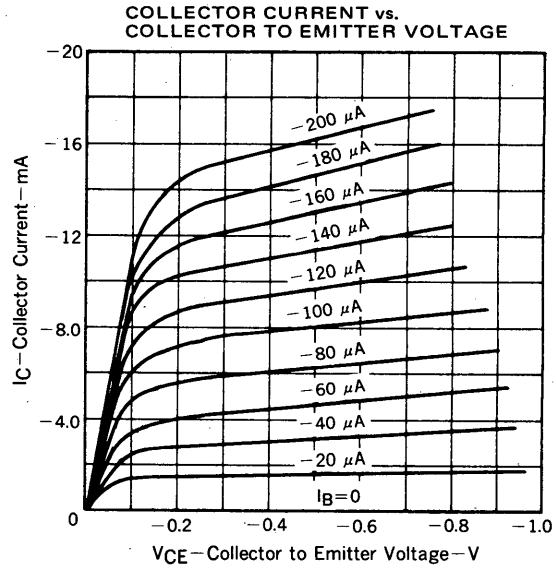
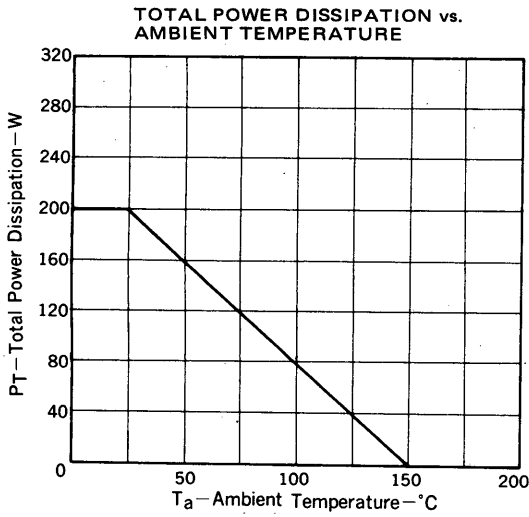
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	$I_{CBO}$			-100	nA	$V_{CB} = -8.0$ V, $I_E = 0$
Emitter Cutoff Current	$I_{EBO}$			-100	nA	$V_{EB} = -3.0$ V, $I_C = 0$
DC Current Gain	$h_{FE1}$ *	30	70			$V_{CE} = -1.0$ V, $I_C = -1.0$ mA
DC Current Gain	$h_{FE2}$ *	50	80	150		$V_{CE} = -1.0$ V, $I_C = -10$ mA
Collector Saturation Voltage	$V_{CE(sat)}$ *		-0.09	-0.20	V	$I_C = -10$ mA, $I_B = -1.0$ mA
Base Saturation Voltage	$V_{BE(sat)}$ *		-0.80	-0.95	V	$I_C = -10$ mA, $I_B = -1.0$ mA
Gain Bandwidth Product	$f_T$	800	1800		MHz	$V_{CE} = -10$ V, $I_E = 10$ mA
Output Capacitance	$C_{ob}$		2.0	3.0	pF	$V_{CB} = -5.0$ V, $I_E = 0$ , $f = 1.0$ MHz
Turn-on Time	$t_{on}$		9.0	20	ns	$I_C = -10$ mA $I_{B1} = -I_{B2} = -1.0$ mA
Storage Time	$t_{stg}$		16	40	ns	
Turn-off Time	$t_{off}$		19	40	ns	

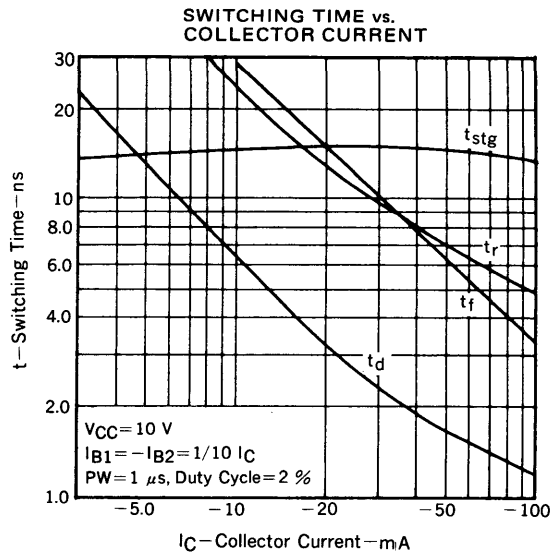
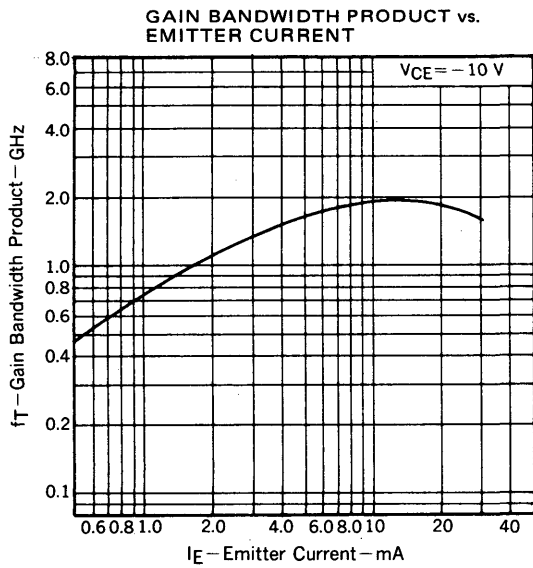
\* Pulsed:  $PW \leq 350$   $\mu\text{s}$ , Duty Cycle  $\leq 2\%$

**$h_{FE2}$  Classification**

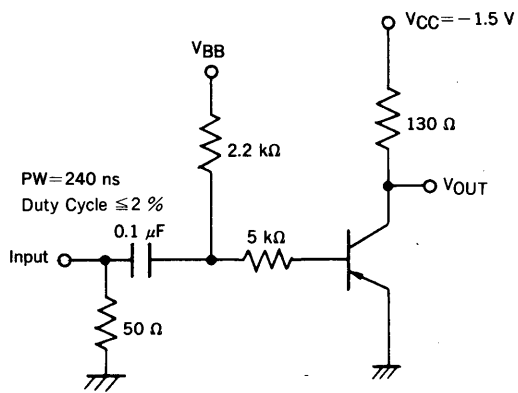
Making	Y33	Y34
$h_{FE2}$	50 to 100	75 to 150

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

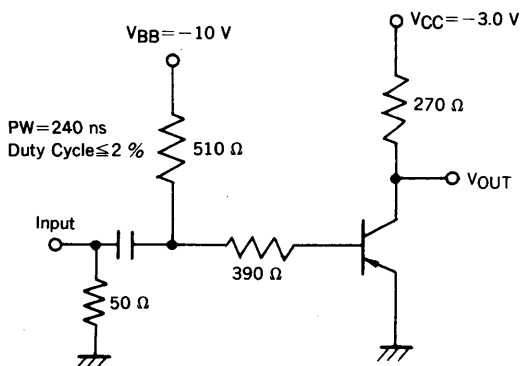
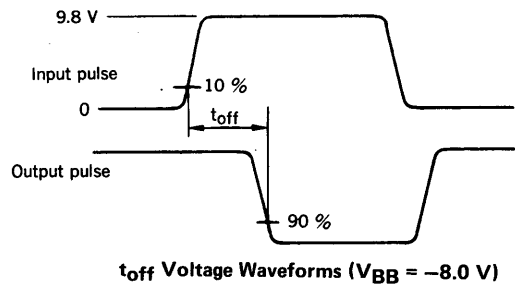
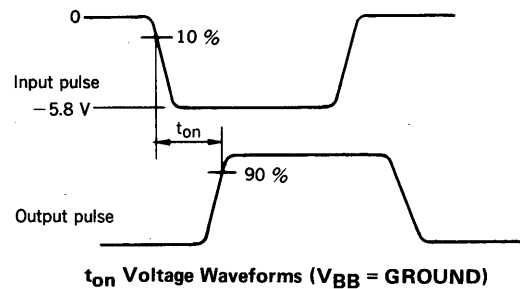




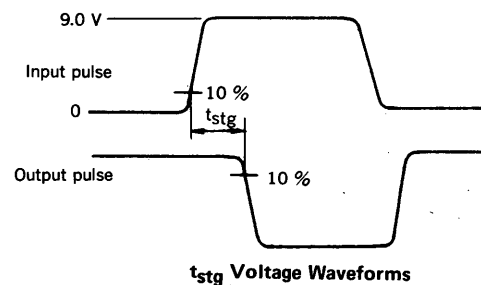
**SWITCHING TIME TEST CIRCUIT**



$t_{on}, t_{off}$  Switching



$t_{stg}$  Switching



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