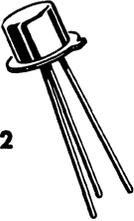


# 2N3248 (SILICON)

# 2N3249



**CASE 22**  
(TO-18)

PNP silicon annular transistors for low-level, high-speed switching applications.

Collector connected to case

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB}$	15	Vdc
Collector-Emitter Voltage	$V_{CEO}$	12	Vdc
Emitter-Base Voltage	$V_{EB}$	5.0	Vdc
Total Device Dissipation @ 25°C Ambient Temperature Derate above 25°C	$P_D$	0.36 2.06	Watt mW/°C
Total Device Dissipation @ 25°C Case Temperature Derate above 25°C	$P_D$	1.2 6.9	Watts mW/°C
Operating Junction Temperature	$T_J$	200	°C
Storage Temperature Range	$T_{stg}$	-65 to +200	°C

FIGURE 1 -  $t_{on}$  CIRCUIT

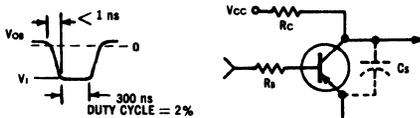
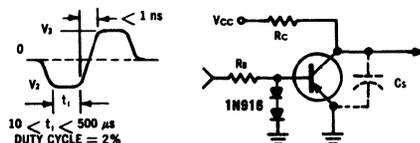


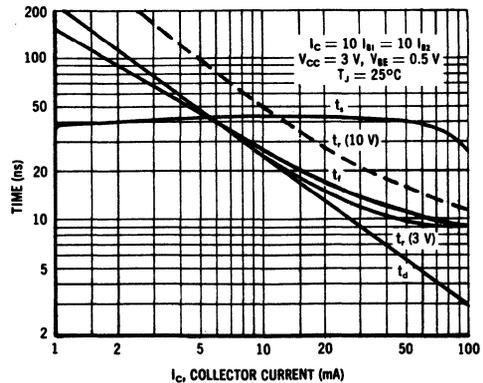
FIGURE 2 -  $t_{off}$  CIRCUIT



$I_C$ mA	$V_{CC}$ volts	$R_B$ ohms	$R_C$ ohms	$C_S$ (max) pF*	$V_{CE}$ volts	$V_1$ volts	$V_2$ volts	$V_3$ volts
10	3	10 K	285	4	+0.5	-10.6	-10.9	+9.1
100	10	1 K	95	12	+0.5	-10.7	-11.3	+8.7

\*Total shunt capacitance of test jig and connectors.

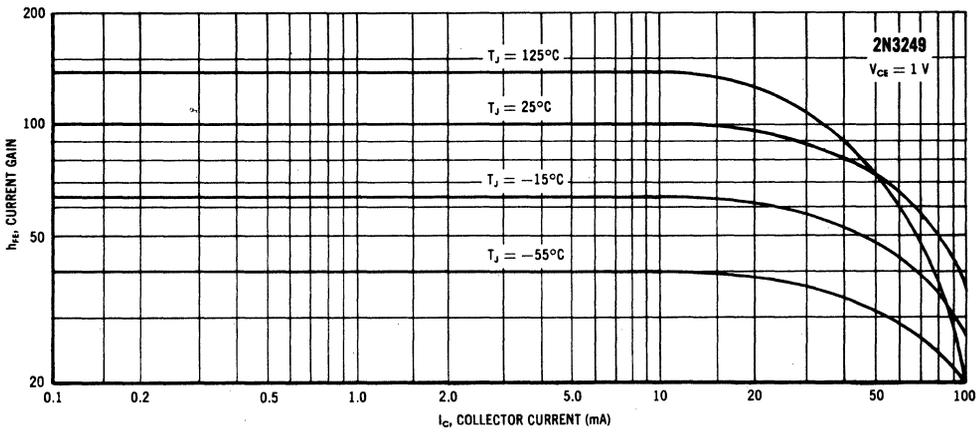
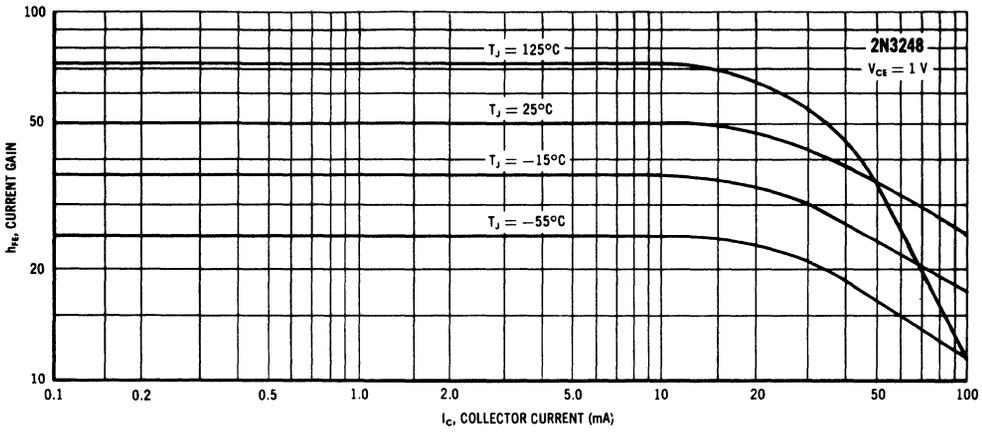
FIGURE 3 - TYPICAL SWITCHING TIMES



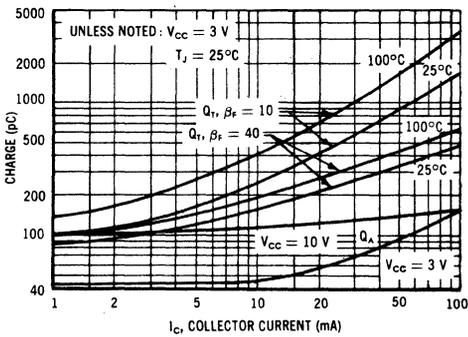


**2N3248, 2N3249 (Continued)**

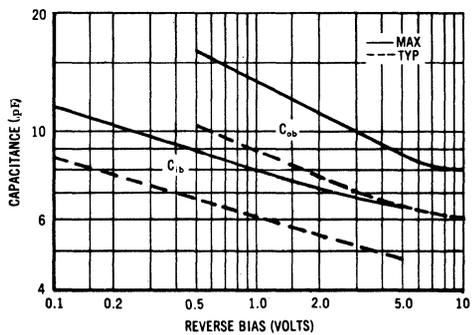
**FIGURE 4 – MINIMUM CURRENT GAIN CHARACTERISTICS**



**FIGURE 5 – MAXIMUM CHARGE DATA**



**FIGURE 6 – JUNCTION CAPACITANCE**



2N3248, 2N3249 (Continued)

FIGURE 7 COLLECTOR SATURATION VOLTAGE CHARACTERISTICS

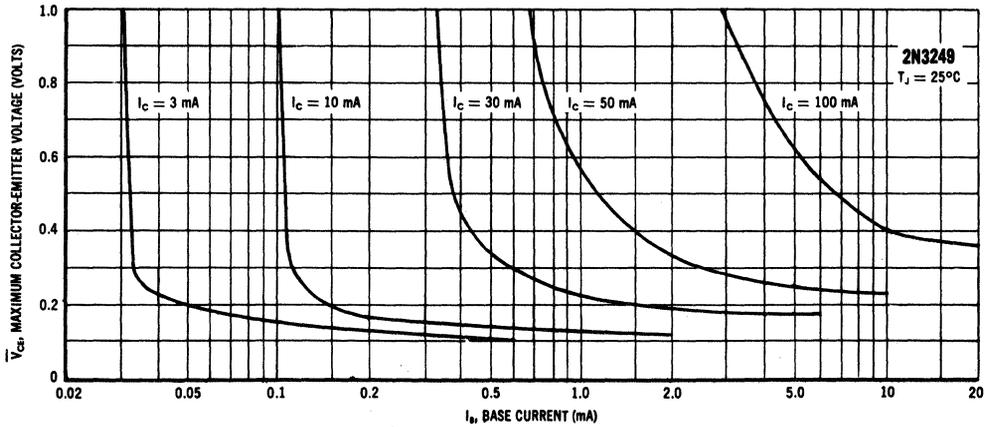
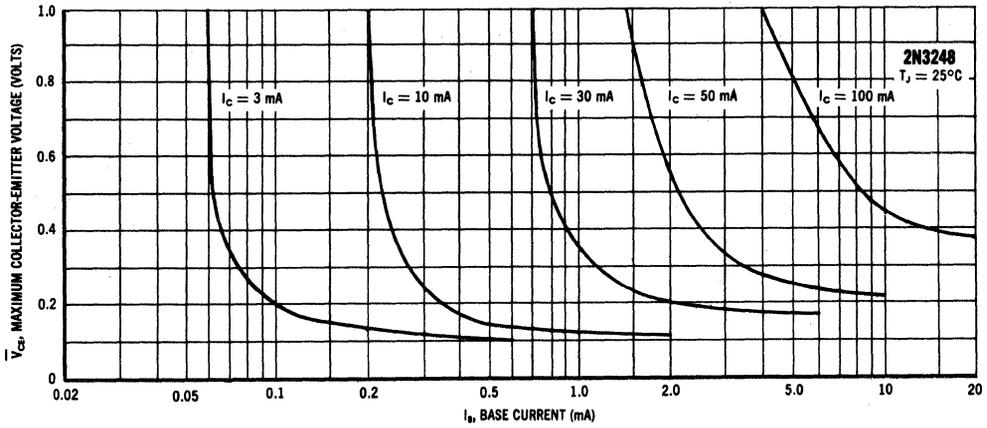


FIGURE 8 — SATURATION VOLTAGE LIMITS

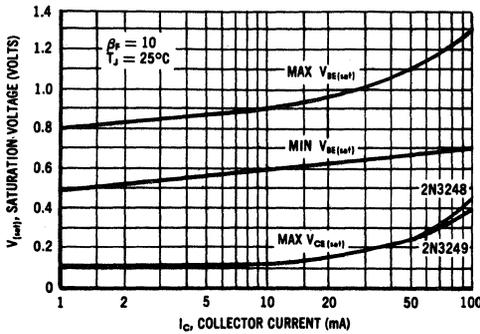


FIGURE 9 — TYPICAL TEMPERATURE COEFFICIENTS

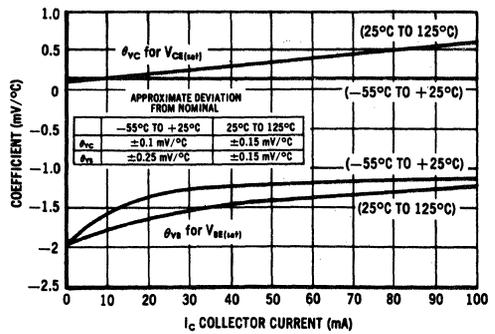


FIGURE 10 — Q<sub>T</sub> TEST CIRCUIT

VALUES REFER TO I<sub>C</sub> = 10 mA TEST POINT

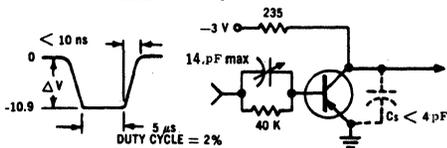


FIGURE 11 — TURN-OFF WAVE FORM

