

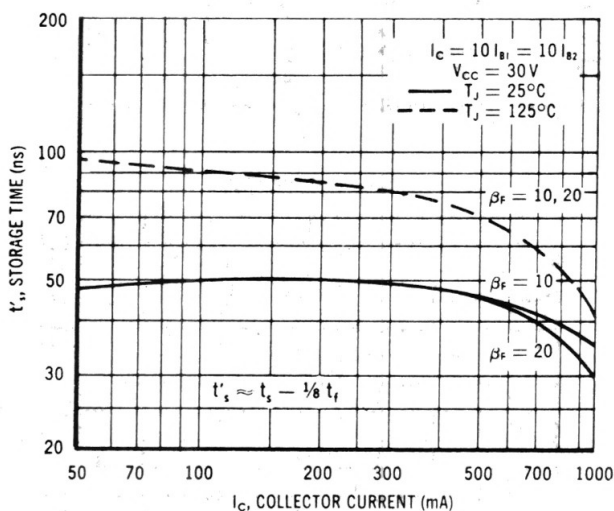
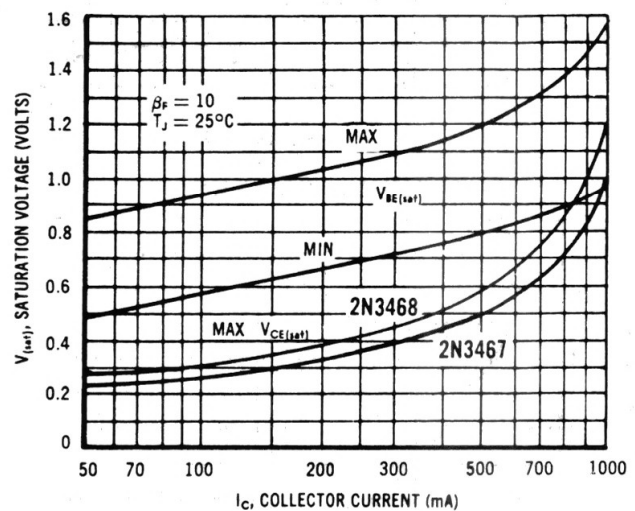
**MOTOROLA****2N3467 (SILICON)****2N3468****CASE 31**
(TO-5)

PNP silicon annular transistors for high-speed switching and driver applications.

Collector connected to case

MAXIMUM RATINGS

Rating	Symbol	2N3467	2N3468	Unit
Collector-Base Voltage	V_{CB}	40	50	Vdc
Collector-Emitter Voltage	V_{CEO}	40	50	Vdc
Emitter-Base Voltage	V_{EB}	5		Vdc
Collector Current	I_C	1		Adc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derating Factor Above 25°C	P_D	1.0 5.71		Watt mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derating Factor Above 25°C	P_D	5 28.6		Watts mW/ $^\circ\text{C}$
Junction Temperature, Operating	T_J	+200		$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200		$^\circ\text{C}$

THERMAL RESISTANCE θ_{JA} (air) = $0.175^\circ\text{C}/\text{mW}$ θ_{JC} (case) = $35^\circ\text{C}/\text{W}$ **STORAGE TIME VARIATION WITH TEMPERATURE****LIMITS OF SATURATION VOLTAGE**



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ELECTRICAL CHARACTERISTICS (At 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
Collector Cutoff Current ($V_{CB} = 30 \text{ Vdc}$, $I_E = 0$) ($V_{CB} = 30 \text{ Vdc}$, $I_E = 0$, $T_A = 100^\circ\text{C}$)		I_{CBO}	—	0.10 15	μAdc
Collector Cutoff Current ($V_{CE} = 30 \text{ Vdc}$, $V_{BE(off)} = 3 \text{ Vdc}$)		I_{CEX}	—	100	nAdc
Base Cutoff Current ($V_{CE} = 30 \text{ Vdc}$, $V_{BE(off)} = 3 \text{ Vdc}$)		I_{BL}	—	120	nAdc
Collector-Base Breakdown Voltage ($I_C = 10 \mu\text{Adc}$, $I_E = 0$)	2N3467 2N3468	BV_{CBO}	40 50	— —	Vdc
Collector-Emitter Breakdown Voltage* ($I_C = 10 \text{ mAdc}$, $I_B = 0$)	2N3467 2N3468	BV_{CEO}^*	40 50	— —	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}$, $I_C = 0$)		BV_{EBO}	5	—	Vdc
Collector Saturation Voltage* ($I_C = 150 \text{ mAdc}$, $I_B = 15 \text{ mAdc}$) ($I_C = 500 \text{ mAdc}$, $I_B = 50 \text{ mAdc}$) ($I_C = 1 \text{ Adc}$, $I_B = 100 \text{ mAdc}$)	2N3467 2N3468 2N3467 2N3468 2N3467 2N3468	$V_{CE(sat)}^*$	— — — — — —	0.3 0.35 0.5 0.6 1.0 1.2	Vdc
Base-Emitter Saturation Voltage* ($I_C = 150 \text{ mAdc}$, $I_B = 15 \text{ mAdc}$) ($I_C = 500 \text{ mAdc}$, $I_B = 50 \text{ mAdc}$) ($I_C = 1 \text{ Adc}$, $I_B = 100 \text{ mAdc}$)		$V_{BE(sat)}^*$	— 0.8 —	1.0 1.2 1.6	Vdc
DC Forward Current Transfer Ratio* ($I_C = 150 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 500 \text{ mAdc}$, $V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 1 \text{ Adc}$, $V_{CE} = 5 \text{ Vdc}$)	2N3467 2N3468 2N3467 2N3468 2N3467 2N3468	h_{FE}^*	40 25 40 25 40 25	— — 120 75 — —	—
Output Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 100 \text{ kHz}$)		C_{ob}	—	25	pF
Input Capacitance ($V_{EB} = 0.5 \text{ Vdc}$, $I_C = 0$, $f = 100 \text{ kHz}$)		C_{ib}	—	100	pF
Current-Gain - Bandwidth Product ($I_C = 50 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$, $f = 100 \text{ MHz}$)	2N3467 2N3468	f_T	175 150	— —	MHz

*Pulse Test: $PW \leq 300 \mu\text{s}$, Duty Cycle $\leq 2\%$



2N3467, 2N3468 (continued)

ELECTRICAL CHARACTERISTICS (continued)

Characteristic		Symbol	Min	Max	Unit
Delay Time	(I _C = 500 mA, I _{B1} = 50 mA, V _{BE} = 2 V, V _{CC} = 30 V)	t _d	—	10	ns
Rise Time		t _r	—	30	ns
Storage Time	(I _C = 500 mA, I _{B1} = I _{B2} = 50 mA, V _{CC} = 30 V)	t _s	—	60	ns
Fall Time		t _f	—	30	ns
Total Control Charge (I _C = 500 mA, I _B = 50 mA, V _{CC} = 30 V)		Q _T	—	6	nC

MINIMUM CURRENT GAIN CHARACTERISTICS

