

**TRANSITRON
GERMANIUM COMPUTER TRANSISTORS**

PB-34
June 30, 1958

ABSOLUTE MAXIMUM RATINGS

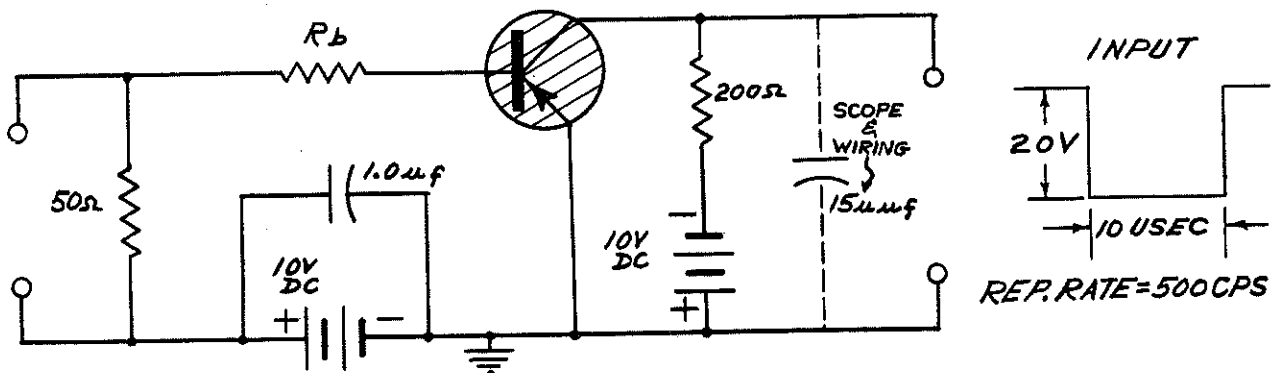
2N425

Collector to emitter voltage	V_{CE}	-20 Volts
Collector to base voltage	V_{CB}	-30 Volts
Emitter to base voltage	V_{EB}	-20 Volts
Collector power dissipation @25°C ambient		133 mw
	@ 50°C ambient	77.5 mw
Storage and operating temperature range		-65 to +85°C

SPECIFICATIONS AND TYPICAL CHARACTERISTICS AT 25°C

		Min	Typical	Max.		Test Conditions
D.C. Current Gain	h_{FE}	20	30	40		$I_B = -1 \text{ ma}$, $V_{CE} = -0.25 \text{ V}$
D.C. Current Gain	h_{FE}	10	15			$I_B = -10 \text{ ma}$, $V_{CE} = -0.35 \text{ V}$
D.C. Input Voltage	V_{BE}		-0.33	0.45	V	$I_B = -1 \text{ ma}$, $V_{CE} = -0.25 \text{ V}$
D.C. Input Voltage	V_{BE}		-0.60	0.80	V	$I_B = -10 \text{ ma}$, $V_{CE} = -0.35 \text{ V}$
D.C. Collector Saturation Voltage	V_{CE}		-0.10	0.32	V	$I_C = -100 \text{ ma}$, $I_B = -10 \text{ ma}$
Collector Cutoff Current	I_{CO}		1.5	4.0	ua	$V_{CB} = -1.5 \text{ V}$
Collector Cutoff Current	I_{CO}		5.0	25	ua	$V_{CB} = -30 \text{ V}$
Collector Current Base Open	I_{CE}		300	1000	ua	$V_{CE} = -20 \text{ V}$
Emitter Cutoff Current	I_{EO}		1.5	4.0	ua	$V_{EB} = -1.5 \text{ V}$
Emitter Cutoff Current	I_{EO}		5.0	25	ua	$V_{EB} = -20 \text{ V}$
Output Capacitance	C_{OB}		12	20	uuf	$V_{CB} = -20 \text{ V}$, $F = 1 \text{ Mc}$
Alpha Cutoff Frequency	f_{α}	2.5	4.0		Mc	$V_{CE} = -6 \text{ V}$, $I_C = -1 \text{ ma}$
Rise Time	$t_r(1)$			1.0	us	$R_b = 2 \text{ K}$
Storage Time	$t_s(1)$			0.60	us	$R_b = 2 \text{ K}$
Storage and Fall Time	$t_s/t_f(1)$			1.25	us	$R_b = 2 \text{ K}$

(1) Measured in the following test circuit



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PB-35
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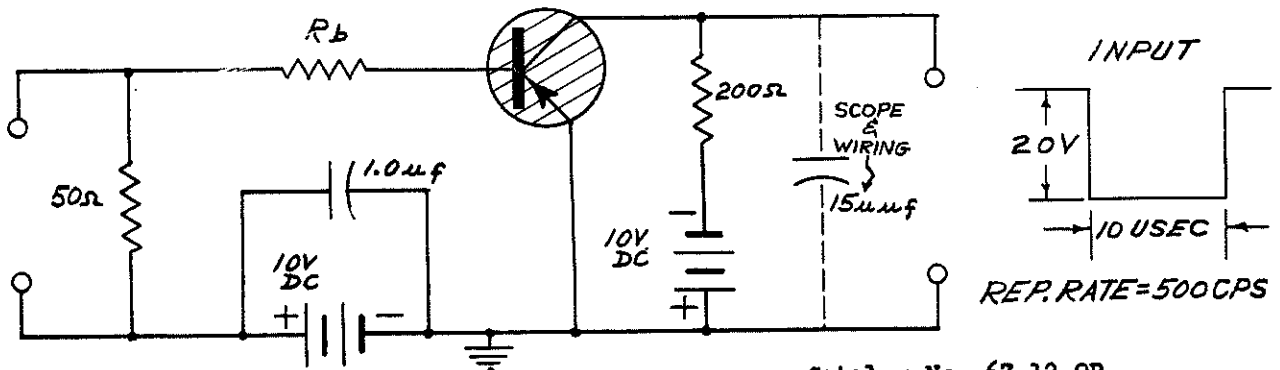
2N426

Collector to Emitter Voltage	V_{CE}	-18 Volts
Collector to Base Voltage	V_{CB}	-30 Volts
Emitter to Base Voltage	V_{EB}	-20 Volts
Collector Power Dissipation	@ 25°C ambient	133 mw
	@ 50°C ambient	77.5 mw
Storage and Operating Temperature Range		-65 to +85°C

SPECIFICATIONS AND TYPICAL CHARACTERISTICS AT 25°C

		Min	Typical	Max.	Test Conditions
D.C. Current Gain	h_{FE}	30	45	60	$I_B = -1\text{ma}, V_{CE} = -0.25\text{V}$
D.C. Current Gain	h_{FE}	10	15		$I_B = -10\text{ma}, V_{CE} = -0.35\text{V}$
D. C. Input Voltage	V_{BE}		-0.33	0.45	V $I_B = -1\text{ma}, V_{CE} = -0.25\text{V}$
D.C. Input Voltage	V_{BE}		-0.60	0.80	V $I_B = -10\text{ma}, V_{CE} = 0.35\text{V}$
D.C. Collector Saturation Voltage	V_{CE}		-0.10	0.32	V $I_C = -100\text{ma}, I_B = -10\text{ma}$
Collector Cutoff Current	I_{CO}		1.5	4.0	ua $V_{CB} = -1.5\text{V}$
Collector Cutoff Current	I_{CO}		5.0	25	ua $V_{CB} = -30\text{V}$
Collector Current Base Open	I_{CE}		300	1000	ua $V_{CE} = -18\text{V}$
Emitter Cutoff Current	I_{EO}		1.5	4.0	ua $V_{EB} = -1.5\text{V}$
Emitter Cutoff Current	I_{EO}		5.0	25	ua $V_{EB} = -20\text{V}$
Output Capacitance	C_{OB}		12	20	uuf $V_{CB} = -20\text{V}, F = 1\text{Mc}$
Alpha Cutoff Frequency	f_{α}	3	4.5		Mc $V_{CE} = -6\text{V}, I_C = -1\text{ma}$
Rise Time	$t_r(1)$			1.0	us $R_B = 3\text{K}$
Rise Time	$t_r(1)$			0.50	us $R_B = 2\text{K}$
Storage Time	$t_s(1)$			0.60	us $R_B = 3\text{K}$
Storage and Fall Time	$t_s, t_f(1)$			1.15	us $R_B = 3\text{K}$

(1) Measured in the following test circuit



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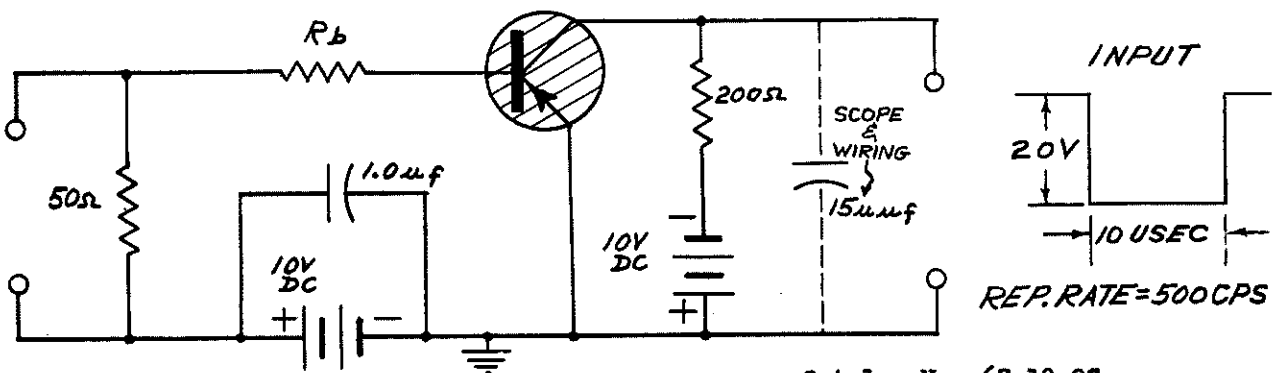
2N427

Collector to Emitter Voltage	V_{CE}	-15 Volts
Collector to Base Voltage	V_{CB}	-30 Volts
Emitter to Base Voltage	V_{EB}	-20 Volts
Collector Power Dissipation	@25°C ambient	133 mw
	@50°C ambient	77.5 mw
Storage and Operating Temperature Range		-65 to +85°C

SPECIFICATIONS AND TYPICAL CHARACTERISTICS AT 25°C

		Min.	Typical	Max.	Test Conditions
D.C. Current Gain	h_{FE}	40	60	80	$I_B = -1ma, V_{CE} = -0.25V$
D.C. Current Gain	h_{FE}	15	25		$I_B = -10ma, V_{CE} = -0.35V$
D.C. Input Voltage	V_{BE}		-0.33	-0.45	V $I_B = -1ma, V_{CE} = -0.25V$
D.C. Input Voltage	V_{BE}		-0.60	-0.80	V $I_B = -10ma, V_{CE} = -0.35V$
D.C. Collector Saturation Voltage	V_{CE}		-0.15	-0.32	V $I_C = -150ma, I_B = -10ma$
Collector Cutoff Current	I_{CO}		1.5	4.0	ua $V_{CB} = -1.5V$
Collector Cutoff Current	I_{CO}		5.0	25	ua $V_{CB} = -30V$
Collector Current Base Open	I_{CE}		300	1000	ua $V_{CE} = -15V$
Emitter Cutoff Current	I_{EO}		1.5	4.0	ua $V_{EB} = -1.5V$
Emitter Cutoff Current	I_{EO}		5.0	25	ua $V_{EB} = -20V$
Output Capacitance	C_{OB}		12	20	uuf $V_{EB} = -20V, F = 1Mc$
Alpha Cutoff Frequency	f_{α}	5	8		Mc $V_{CE} = -6V, I_C = -1ma$
Rise Time	$tr(1)$			0.80	us $R_b = 4K$
Rise Time	$tr(1)$			0.40	us $R_b = 2K$
Storage Time	$ts(1)$			0.60	us $R_b = 4K$
Storage And Fall Time	$ts/tr(1)$			1.15	us $R_b = 4K$

(1) Measured in the following test circuit



Catalog No. 67.12.9C

TRANSITRON
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PB-37
June 30, 1958

ABSOLUTE MAXIMUM RATINGS

2N428

Collector to Emitter Voltage	V_{CE}	-12Volts
Collector to Base Voltage	V_{CB}	-30 Volts
Emitter to Base Voltage	V_{EB}	-20 Volts
Collector Power Dissipation	@ 25°C ambient	133 mw
	@ 50°C ambient	77.5 mw
Storage and Temperature Range		-65 to / 85°C

SPECIFICATIONS AND TYPICAL CHARACTERISTICS AT 25°C

		Min	Typical	Max	Test Conditions	
D.C. Current Gain	h_{FE}	60	80			$I_B = -1 \text{ ma}$, $V_{CE} = -0.25V$
D.C. Current Gain	h_{FE}	20	45			$I_B = -10\text{ma}$, $V_{CE} = -0.35V$
D.C. Input Voltage	V_{BE}		-0.33	0.45	V	$I_B = -1\text{ma}$, $V_{CE} = -0.25V$
D.C. Input Voltage	V_{BE}		-0.60	0.80	V	$I_B = -10\text{ma}$, $V_{CE} = -0.35V$
D.C. Collector Saturation Voltage	V_{CE}		-0.15	0.32	V	$I_C = -200\text{ma}$, $I_B = -10\text{ma}$
Collector Cutoff Current	I_{CO}		1.5	4.0	ua	$V_{CB} = -1.5V$
Collector Cutoff Current	I_{CO}		5.0	25	ua	$V_{EB} = -30V$
Collector Current Base Open	I_{CE}		300	1000	ua	$V_{CE} = -12V$
Emitter Cutoff Current	I_{EO}		1.5	4.0	ua	$V_{EB} = -1.5V$
Emitter Cutoff Current	I_{EO}		5.0	25	ua	$V_{EB} = -20V$
Output Capacitance	C_{OB}		12	20	uuf	$V_{CB} = -20V$, $F = 1\text{Mc}$
Alpha Cutoff Frequency	f_{α}	10	13		Mc	$V_{CE} = -6V$, $I_C = -1\text{ma}$
Rise Time	$t_r(1)$			0.80	us	$R_B = 6K$
Rise Time	$t_r(1)$			0.30	us	$R_B = 2K$
Storage Time	$t_s(1)$			0.60	us	$R_B = 6K$
Storage and Fall Time	$t_r / t_f(1)$			1.10	us	$R_B = 6K$

(1) Measured in the following test circuit

