

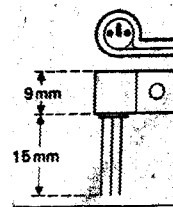
2N5820 through 2N5823

COMPLEMENTARY SILICON AF MEDIUM POWER TRANSISTORS

THE 2N5820 THROUGH 2N5823 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR USE IN AF DRIVERS AND OUTPUTS, AS WELL AS FOR UNIVERSAL APPLICATIONS. THEY ARE SUPPLIED IN TO-92F PLASTIC CASE WITH OPTIONAL X-67 HEAT SINK. THE 2N5820, 2N5822 ARE NPN AND ARE COMPLEMENTARY TO THE PNP 2N5821, 2N5823.

CASE TO-92F

X-67 Heat Sink

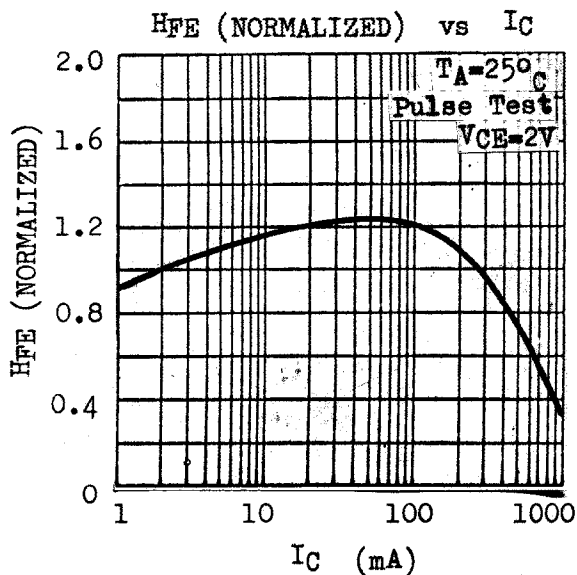
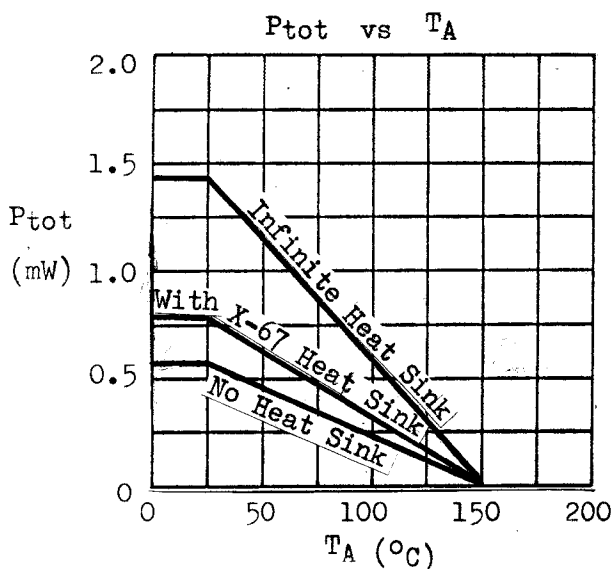


ABSOLUTE MAXIMUM RATINGS For p-n-p devices, voltage and current values are negative.

Collector-Base Voltage
 Collector-Emitter Voltage ($V_{BE}=0$)
 Collector-Emitter Voltage ($I_B=0$)
 Emitter-Base Voltage
 Collector Current
 Total Power Dissipation ($T_C \leq 25^\circ\text{C}$)
 With X-67 Heat Sink ($T_A \leq 25^\circ\text{C}$)
 No Heat Sink ($T_A \leq 25^\circ\text{C}$)
 Operating Junction & Storage Temperature
 ** This exceeds JEDEC registered value.

2N5820, 2 (NPN)
 2N5821, 3 (PNP)

V_{CBO}	70V
V_{CES}	70V
V_{CEO}	60V
V_{EBO}	5V
I_C	1A **
P_{tot}	1.4W **
	800mW **
	625mW **
T_j, T_{stg}	-55 to 150°C



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2N5820 family

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	V_{CES}	70			V	$I_C=0.01\text{mA}$ $V_{BE}=0$
Collector-Emitter Breakdown Voltage	V_{CEO}^*	60			V	$I_C=10\text{mA}$ $I_B=0$
Collector Cutoff Current	I_{CBO}			100	nA	$V_{CB}=25\text{V}$ $I_E=0$
				15	μA	$V_{CB}=25\text{V}$ $I_E=0$ $T_A=100^\circ\text{C}$
Emitter Cutoff Current	I_{EBO}			10	μA	$V_{EB}=5\text{V}$ $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}^*$		0.25	0.75	V	$I_C=500\text{mA}$ $I_B=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}^*$		0.9	1.2	V	$I_C=500\text{mA}$ $I_B=50\text{mA}$
Base-Emitter Voltage	V_{BE}^*	0.6	0.85	1.1	V	$I_C=500\text{mA}$ $V_{CE}=2\text{V}$
D.C. Current Gain	H_{FE}^*		60	120		$I_C=2\text{mA}$ $V_{CE}=2\text{V}$
			100	200		$I_C=2\text{mA}$ $V_{CE}=2\text{V}$
			20			$I_C=500\text{mA}$ $V_{CE}=2\text{V}$
			25			$I_C=500\text{mA}$ $V_{CE}=2\text{V}$
Collector-Base Capacitance	C_{cb}			15	pF	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$
Current Gain-Bandwidth Product	f_T		140		MHz	$I_C=50\text{mA}$ $V_{CE}=2\text{V}$

* Pulse Test : Pulse Width=0.3ms, Duty Cycle=1%

