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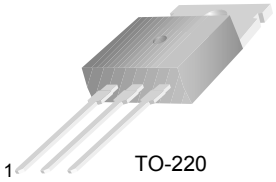
FAIRCHILD SEMICONDUCTOR®

April 2006

KSD526
NPN Epitaxial Silicon Transistor

Power Amplifier Applications

- Complement to KSB596



TO-220

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings * T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	4	A
I_B	Base Current	0.4	A
P_C	Collector Dissipation (T_C=25°C)	30	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55~150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	MIN	MAX	MAX	Units
I_{CBO}	Collector Cut-off Current	V_{CB} = 80V, I_E = 0			30	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0			100	μA
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 50mA, I_B = 0	80			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 10mA, I_C = 0	5			V
h_{FE}	DC Current Gain	V_{CE} = 5V, I_C = 0.5A V_{CE} = 5V, I_C = 3A	40 15	 50	240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 3A, I_B = 0.3A		0.45	1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	V_{CE} = 5V, I_C = 3A		1	1.5	V
f_T	Current Gain - Bandwidth Product	V_{CE} = 5V, I_C = 0.5A	3	8		MHz
C_{cb}	Collector Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1MHz		90		pF

h_{FE} Classification

Classification	R	O	Y
h_{FE}	40~80	70~140	120~240

Typical Characteristics

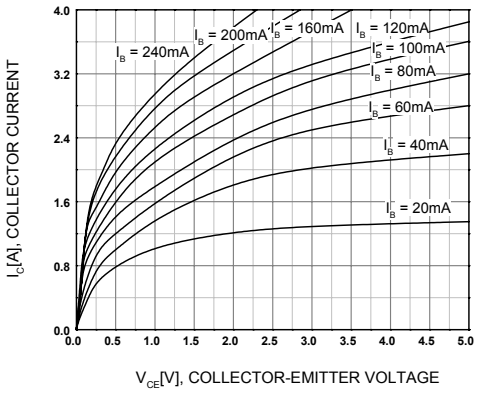


Figure 1. Static Characteristic

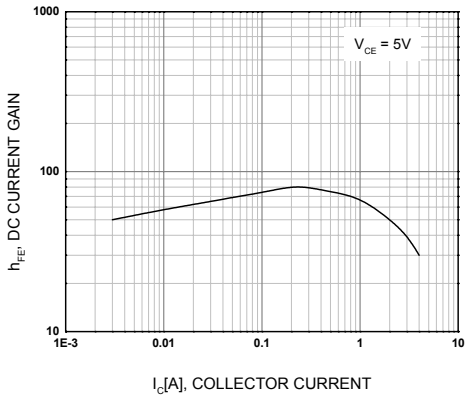


Figure 2. DC current Gain

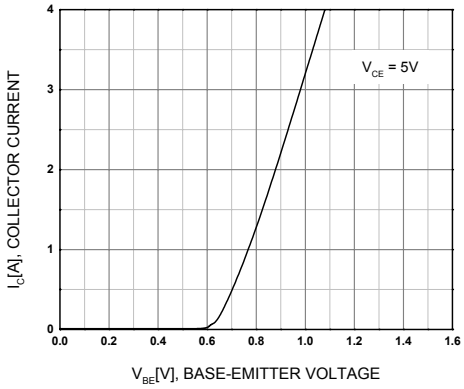


Figure 3. Base-Emitter On Voltage

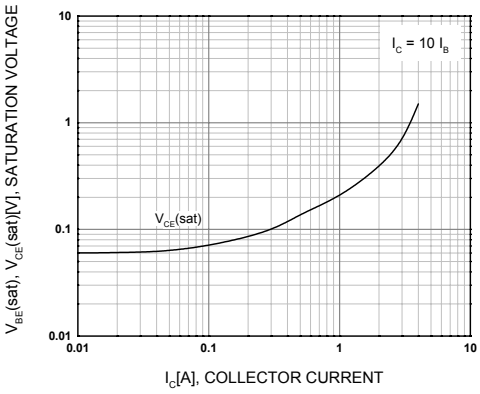


Figure 4. Collector-Emitter Saturation Voltage

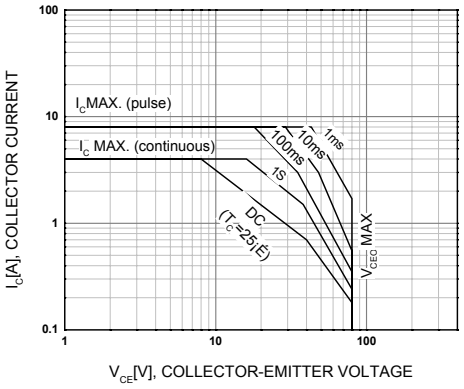


Figure 5. Safe Operating Area

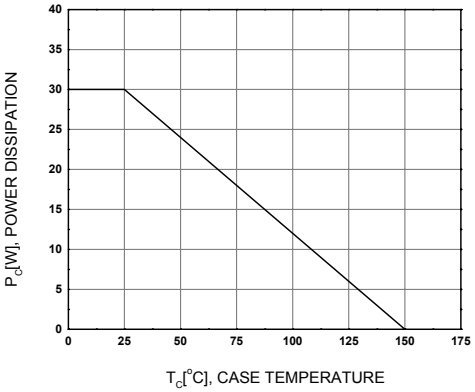
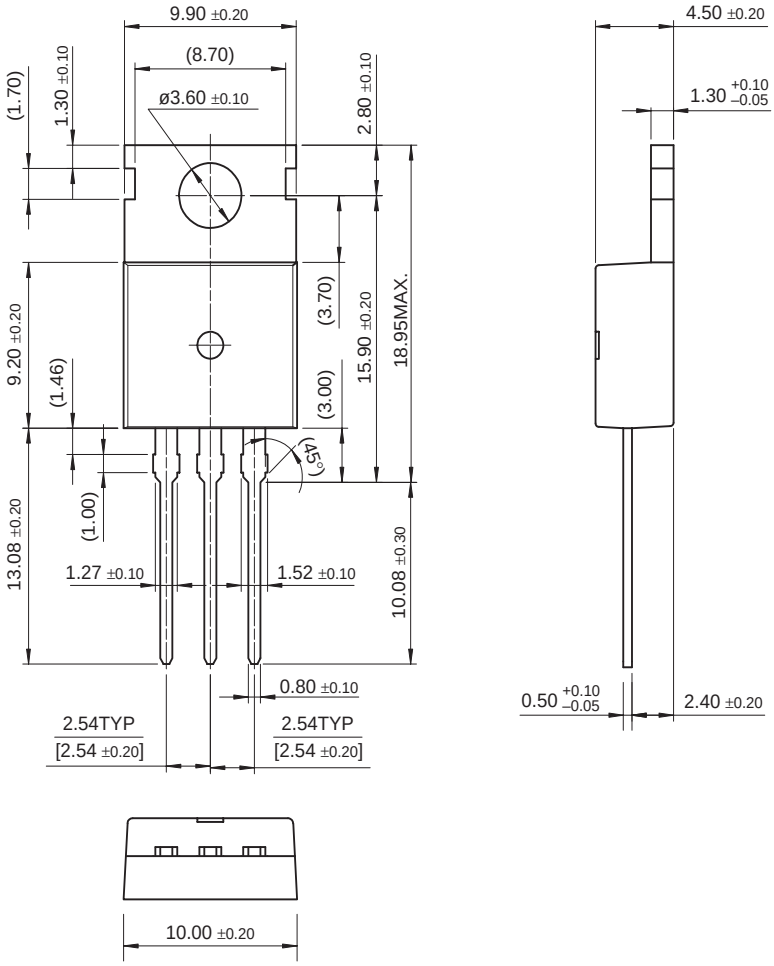


Figure 6. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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Rev. I18

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