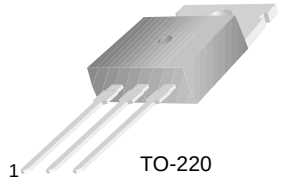
FAIRCHILD
SEMICONDUCTOR TM

KSD560

Low Frequency Power Amplifier

- Low Speed Switching Industrial Use
- Complement to KSB601



TO-220

1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	5	A
I_{CP}	*Collector Current (Pulse)	8	A
I_B	Base Current	0.5	A
P_C	Collector Dissipation (T_a=25°C)	1.5	W
P_C	Collector Dissipation (T_C=25°C)	30	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

* PW≤10ms, Duty Cycle≤50%

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB} = 100V, I_E = 0			1	μA
h_{FE1} h_{FE2}	*DC Current Gain	V_{CE} = 2V, I_C = 3A V_{CE} = 2V, I_C = 5A	2K 500	6K	15K	
V_{CE}(sat)	*Collector-Emitter Saturation Voltage	I_C = 3A, I_B = 3mA		0.9	1.5	V
V_{BE}(sat)	*Base-Emitter SaturationVoltage	I_C = 3A, I_B = 3mA		1.6	2	V
t_{ON}	Turn ON Time	V_{CC} ≒ 50V, I_C = 3A I_{B1} = - I_{B2} = 3mA R_L = 16.7Ω		1		μs
t_{STG}	Storage Time			3.5		μs
f_T	Fall Time			1.2		μs

* Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

h_{FE} Classification

Classification	R	O	Y
h_{FE1}	2000 ~ 5000	3000 ~ 7000	5000 ~ 15000

Typical Characteristics

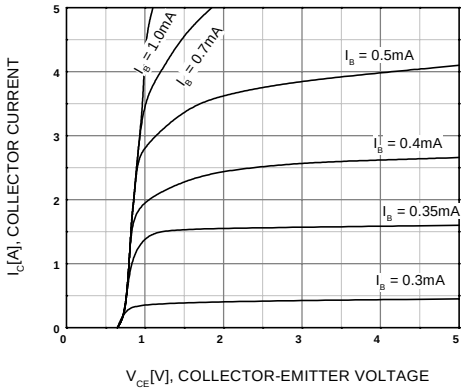


Figure 1. Static Characteristic

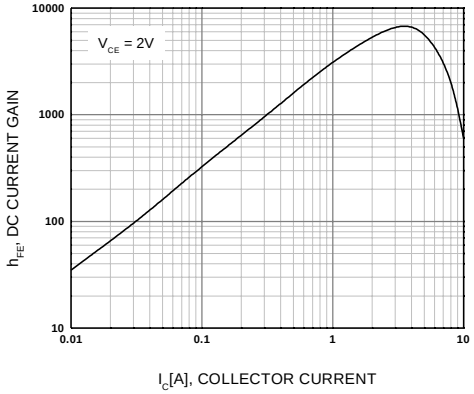


Figure 2. DC current Gain

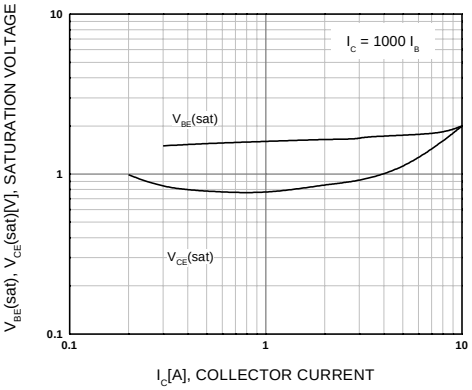


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

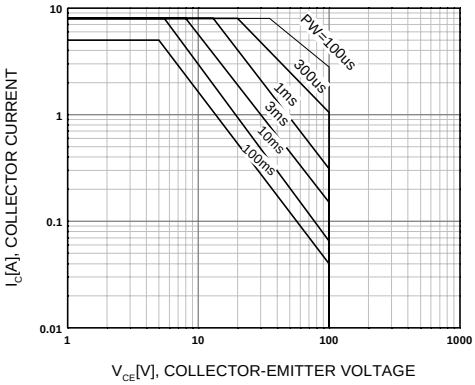


Figure 4. Safe Operating Area

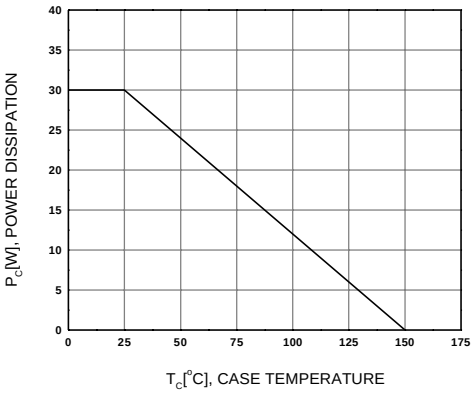
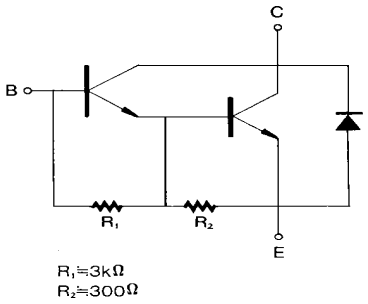


Figure 5. Power Derating



Package Demensions

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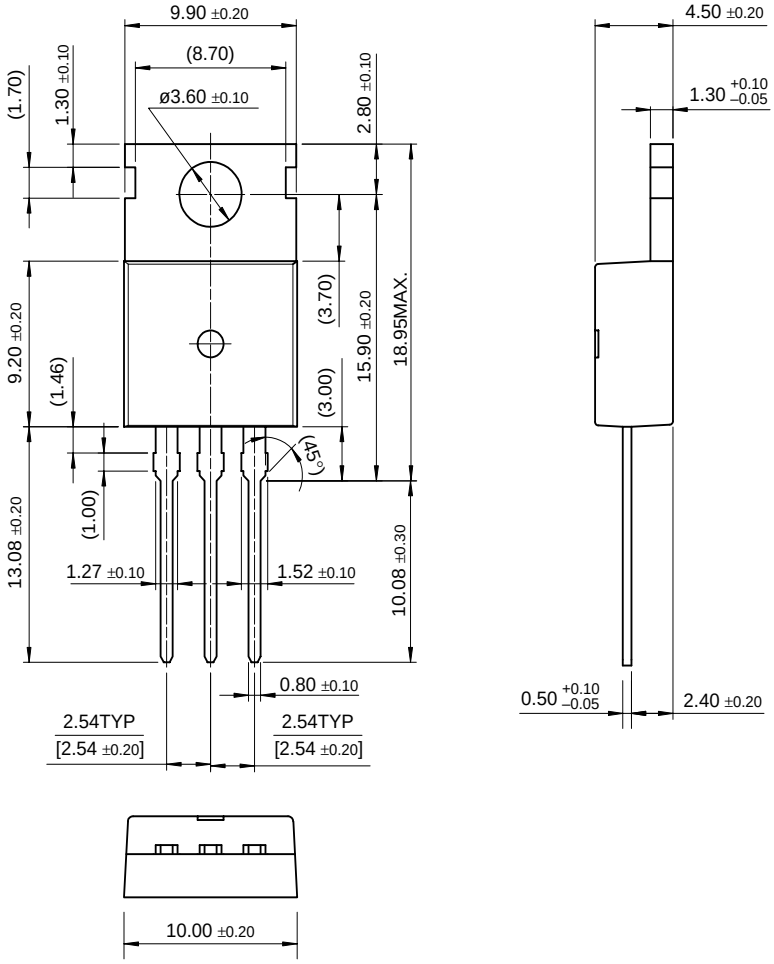

Dimensions in Millimeters

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Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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KSD560
NPN Epitaxial Silicon Darlington Transistor

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Features

- Low Speed Switching Industrial Use
- Complement to KSB601

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Applications

Low Frequency Power Amplifier

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
KSD560R	Full Production	$0.357	TO-220	3	BULK
KSD560RTSTU	Full Production	$0.357	TO-220	3	RAIL
KSD560Y	Full Production	$0.357	TO-220	3	BULK
KSD560RTU	Full Production	$0.357	TO-220	3	RAIL
KSD560YTU	Full Production	$0.357	TO-220	3	RAIL
KSD560OTU	Full Production	$0.357	TO-220	3	RAIL

* 1,000 piece Budgetary Pricing

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