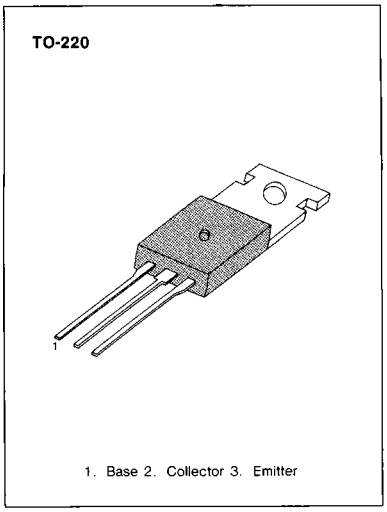
LOW FREQUENCY POWER AMPLIFIER
MEDIUM SPEED SWITCHING
INDUSTRIAL USE

- **Complement to KSD560**



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	−100	V
Collector-Emitter Voltage	V_{CEO}	−100	V
Emitter-Base Voltage	V_{EBO}	−7	V
Collector Current (DC)	I_C	−5	A
*Collector Current (Pulse)	I_C	−8	A
Base Current (DC)	I_B	−0.5	A
Collector Dissipation (T_a=25°C)	P_C	1.5	W
Collector Dissipation (T_c=25°C)	P_C	30	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

* PW≤10ms, Duty Cycle ≤50%

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage	V_{CEO} (sus)	I_C=−3A, I_B1=−3mA, L=1mH	−100			V
Collector Emitter Sustaining Voltage	V_{CEX} (sus)1	I_C=−3A, I_B1=−I_B2=−3mA V_{BE} (off)=5V, L=180μH Clamped	−100			V
Collector Emitter Sustaining Voltage	V_{CEX} (sus)2	I_C=−6A, I_B1=−12mA I_B2=3mA, V_{BE} (off)=5V L=180μH, Clamped	−100			V
Collector Cutoff Current	I_{CBO}	V_{CB}=−100V, I_E=0			−10	μA
Collector Cutoff Current	I_{CER}	V_{CE}=−100V, R_{BE}=51Ω T_a=125°C			−1	mA
Collector Cutoff Current	I_{CEX}1	V_{CE}=−100V, V_{BE} (off)=1.5V			−10	μA
Collector Cutoff Current	I_{CEX}2	V_{CE}=−100V, V_{BE}(off)=1.5V T_a=125°C			−1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=−5V, I_C=0			−3	mA
*DC Current Gain	h_{FE1}	V_{CE}=−2V, I_C=−3A	2000		15000	
	h_{FE2}	V_{CE}=−2V, I_C=−5A	500			
*Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=−3A, I_B=−3mA			−1.5	V
*Base-Emitter Saturation Voltage	V_{BE} (sat)	I_C=−3A, I_B=−3mA			−2	V
Turn On Time	ton	I_C=−3A, RL=17Ω		0.5		μs
Storage Time	ts	I_B1=−I_B2=−3mA		1		μs
Fall time	tf	V_{CC}≅−50V		1		μs

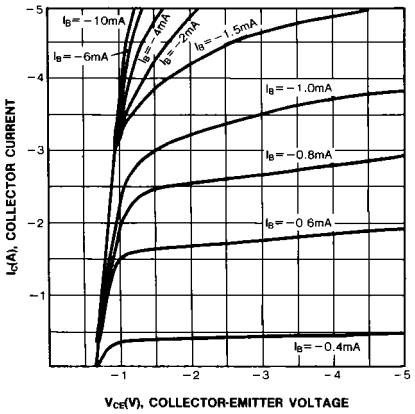
*Pulse Test: PW≤350μs, Duty Cycle≤2%

h_{FE}(1) CLASSIFICATION

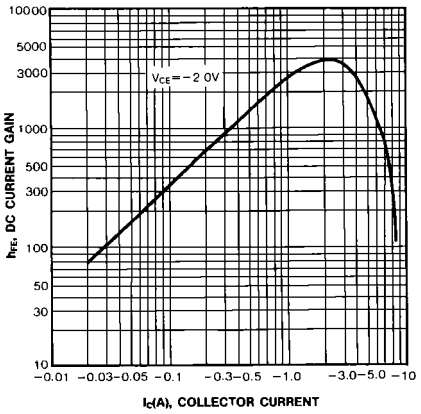
Classification	R	O	Y
h_{FE}(1)	2000-5000	3000-7000	5000-15000

PNP Darlington Transistor KSB601 datasheet

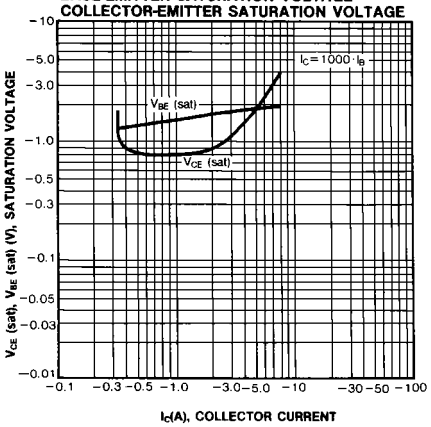
STATIC CHARACTERISTIC



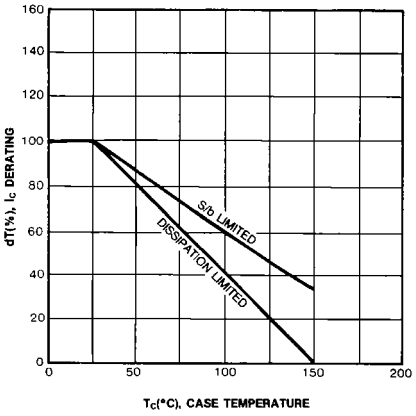
DC CURRENT GAIN



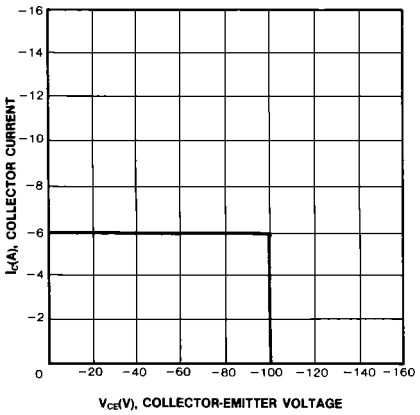
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



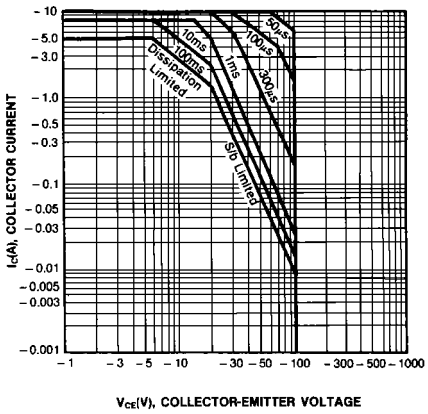
DERATING CURVE OF SAFE OPERATING AREAS



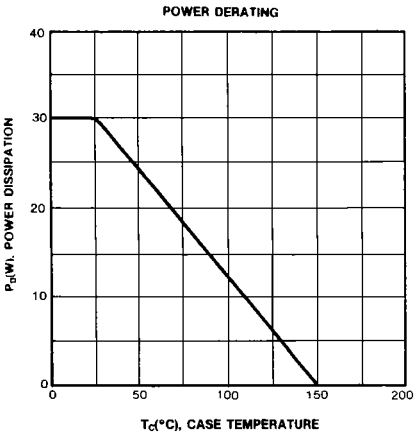
REVERSE BIAS SAFE OPERATING AREAS

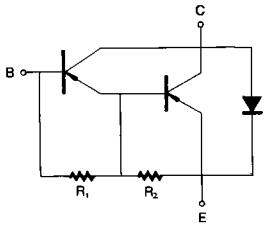


SAFE OPERATING AREA



PNP Darlington Transistor KSB601 datasheet





R_1≒3kΩ
R_2≒300Ω