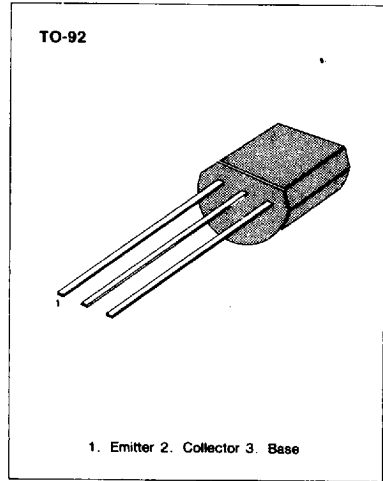


**AUDIO FREQUENCY POWER AMPLIFIER  
MEDIUM SPEED SWITCHING**

• Complement to KSB1116/1116A

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage : KSD1616	V <sub>CB0</sub>	60	V
: KSD1616A		120	V
Collector-Emitter Voltage : KSD1616	V <sub>CE0</sub>	50	V
: KSD1616A		60	V
Emitter-Base Voltage	V <sub>EB0</sub>	6	V
Collector Current (DC)	I <sub>c</sub>	1	A
* Collector Current (Pulse)	I <sub>c</sub>	2	A
Collector Dissipation	P <sub>c</sub>	0.75	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~150	°C



\* PW<10ms, Duty Cycle<50%

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0			100	nA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> =6V, I <sub>C</sub> =0			100	nA
* DC Current Gain : KSD1616	h <sub>FE1</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =100mA	135		600	
: KSD1616A			135		400	
** Base Emitter On Voltage	h <sub>FE2</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =1A	81			
* Collector Emitter Saturation Voltage	V <sub>BE (on)</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =50mA	600	640	700	mV
* Base Emitter Saturation Voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> =1A, I <sub>E</sub> =50mA		0.15	0.3	V
Output Capacitance	V <sub>BE (sat)</sub>	I <sub>C</sub> =1A, I <sub>E</sub> =50mA		0.9	1.2	V
Current Gain Bandwidth Product	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		19		pF
Turn On Time	f <sub>t</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =100mA	100	160		MHz
Storage Time	t <sub>on</sub>	V <sub>CC</sub> =10V, I <sub>C</sub> =100mA		0.07		μs
Fall Time	t <sub>stg</sub>	I <sub>B1</sub> = -I <sub>B2</sub> = 10mA		0.95		μs
	t <sub>f</sub>	V <sub>BE (off)</sub> = -2~-3V		0.07		μs

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

**h<sub>FE</sub>(1) CLASSIFICATION**

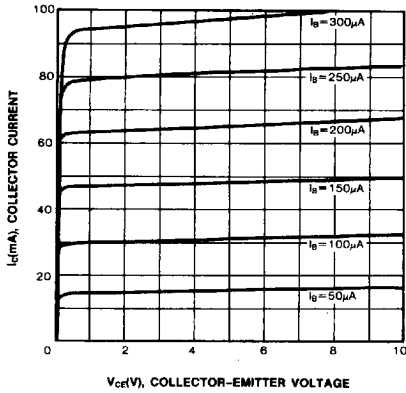
Classification	Y	G	L
h <sub>FE</sub> (1)	135-270	200-400	300-600



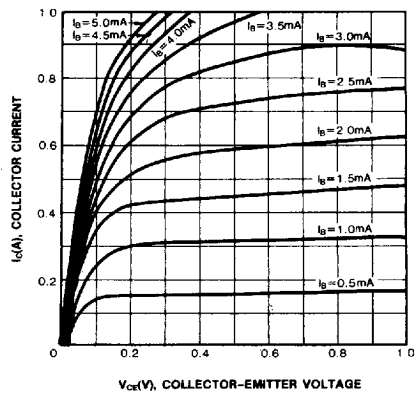
ELECTRONICS

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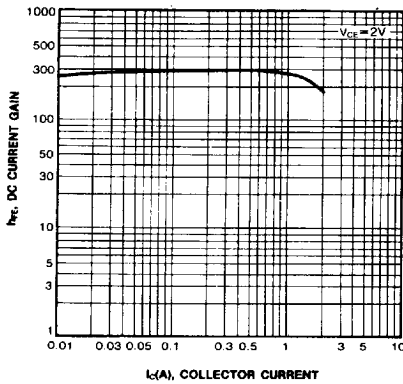
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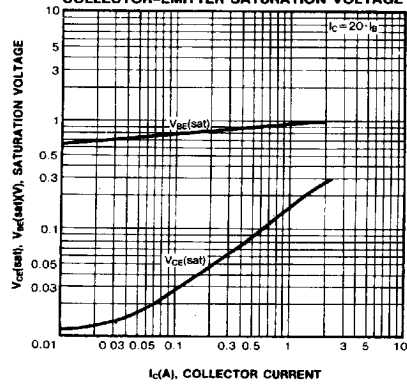
STATIC CHARACTERISTIC



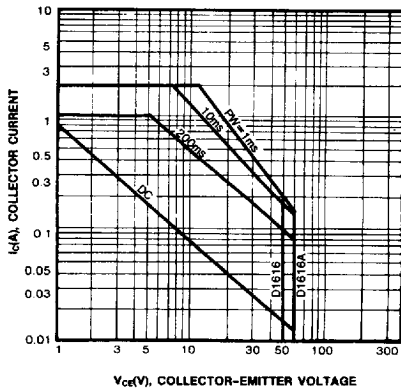
DC CURRENT GAIN



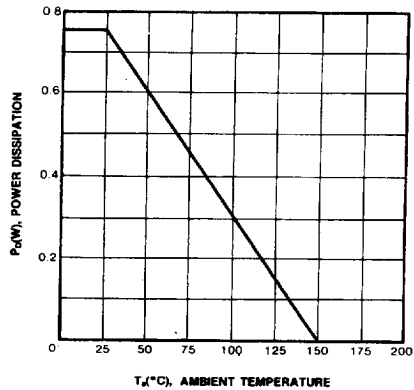
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



SAFE OPERATING AREA

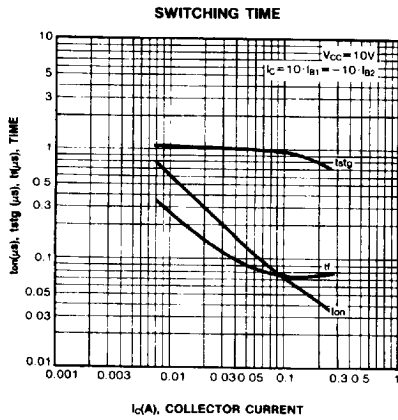
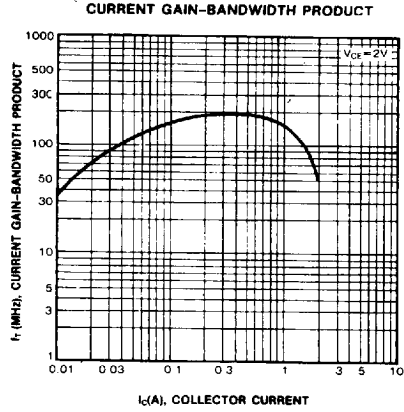
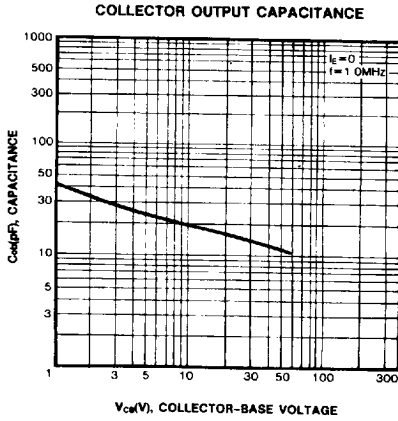


POWER DERATING



ELECTRONICS

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3



ELECTRONICS

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