

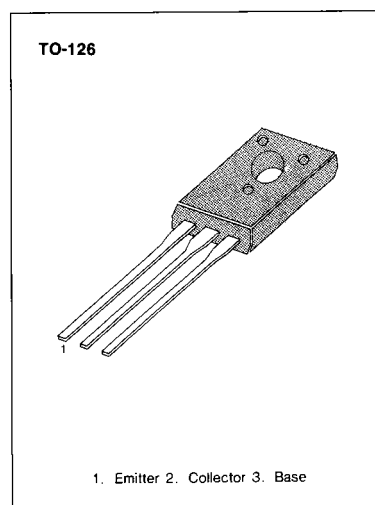
NPN Transistor KSC2682 datasheet

AUDIO FREQUENCY POWER AMPLIFIER

• Complement to KSA1142

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	180	V
Collector-Emitter Voltage	V_{CE0}	180	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	100	mA
Collector Dissipation ($T_a = 25^\circ\text{C}$)	P_C	1.2	W
Collector Dissipation ($T_c = 25^\circ\text{C}$)	P_C	8	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CB0}	$V_{CB} = 180\text{V}, I_E = 0$			1.0	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB} = 3\text{V}, I_C = 0$			1.0	μA
*DC Current Gain	h_{FE1}	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	90	190		
	h_{FE2}	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	100	200	320	
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$		0.12	0.5	V
*Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$		0.8	1.5	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 20\text{mA}$		200		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0$ $f = 1\text{MHz}$		3.2	5.0	pF
Noise Figure	NF	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$ $R_s = 10\text{k}\Omega, f = 1\text{kHz}$		4		dB

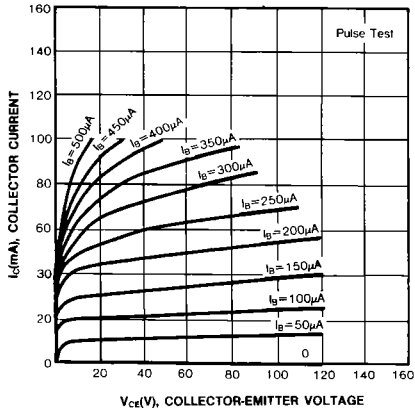
* Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

$h_{FE(2)}$ CLASSIFICATION

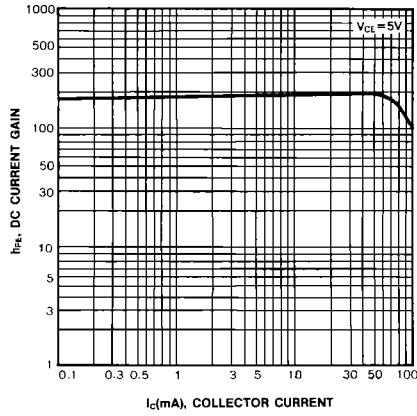
Classification	O	Y
$h_{FE(2)}$	100-200	160-320

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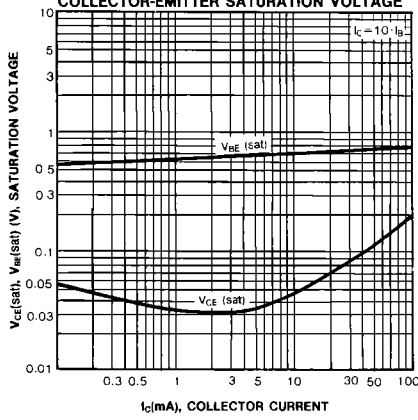
STATIC CHARACTERISTIC



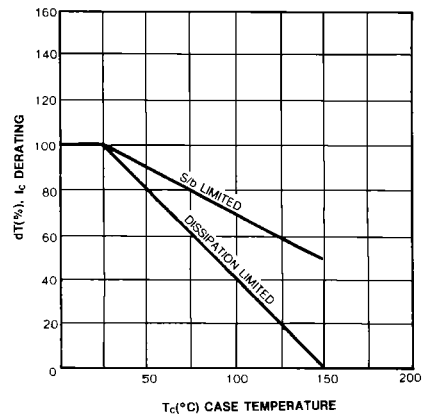
DC CURRENT GAIN



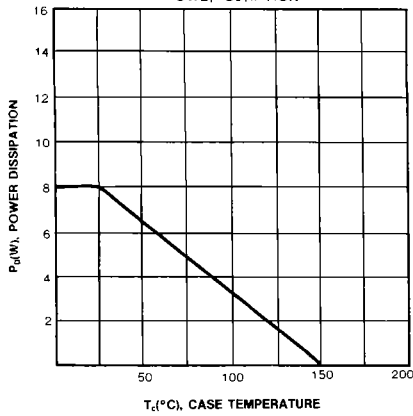
**BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE**



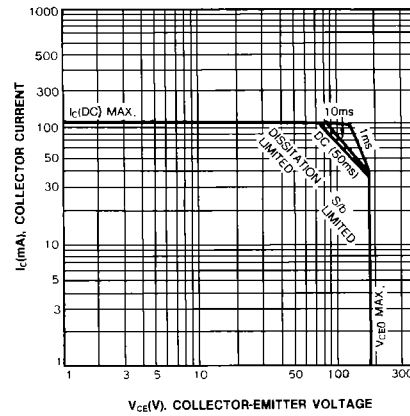
DERATING CURVE OF SAFE OPERATING AREAS



POWER DERATION



SAFE OPERATING AREA



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