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KSA1142

Audio Frequency Power Amplifier High Frequency Power Amplifier • Complement to KSC2682



PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	- 180	V
V_{CEO}	Collector-Emitter Voltage	- 180	V
V _{EBO}	Emitter-Base Voltage	- 5	V
I _C	Collector Current	- 100	mA
P _C	Collector Dissipation (T _a =25°C)	1.2	W
P _C	Collector Dissipation (T _C =25°C)	8	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I _{CBO}	Collector Cut-off Current	V _{CB} = - 180V, I _E = 0			- 1	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{EB} = -3V, I_{C} = 0$			- 1	μΑ
h _{FE1}	* DC Current Gain	$V_{CE} = -5V, I_{C} = -1mA$	90	200		
h_{FE2}		$V_{CE} = -5V, I_{C} = -10mA$	100	200	320	
V _{CE} (sat)	* Collector-Emitter Saturation Voltage	$I_C = -50 \text{mA}, I_B = -5 \text{mA}$		- 0.16	- 0.5	V
V _{BE} (sat)	* Base-Emitter Saturation Voltage	$I_C = -50 \text{mA}, I_B = -5 \text{mA}$		- 0.8	- 1.5	V
f _T	Current Gain Bandwidth Product	$V_{CE} = -10V, I_{C} = -20mA$		180		MHz
C _{ob}	Output Capacitance	$V_{CB} = -10V, I_{E} = 0, f=1MHz$		4.5	7	pF
NF	Noise Figure	V _{CE} = - 10V, I _C = - 1mA		4		dB
		$R_S = 10k\Omega$, $f = 1MHz$				

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

h_{FE} Classification

Classification	0	Y
h _{FE2}	100 ~ 200	160 ~ 320

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Typical Characteristics

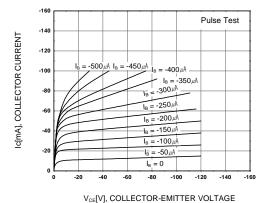


Figure 1. Static Characteristic

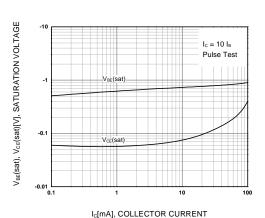


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

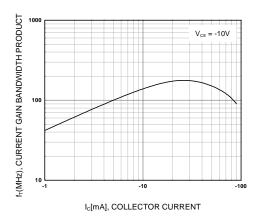


Figure 5. Current Gain Bandwidth Product

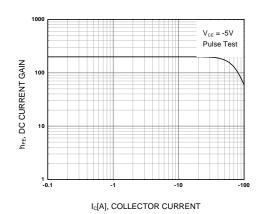


Figure 2. DC current Gain

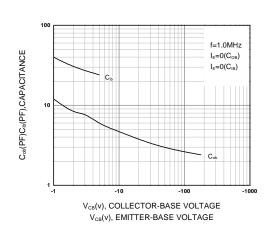
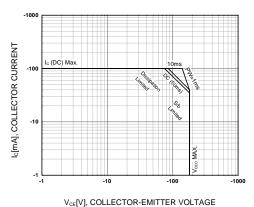


Figure 4. Collector Output Capacitance



VCELVJ, COLLECTOR-LIMITTER VOLTAGE

Rev. A, February 2000

Figure 6. Safe Operating Area

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Typical Characteristics (Continued)

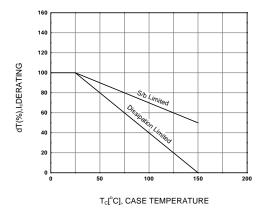


Figure 7. Derating Curve of Safe Operating Areas

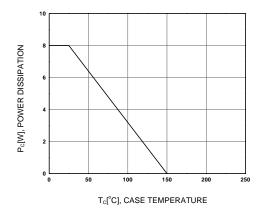
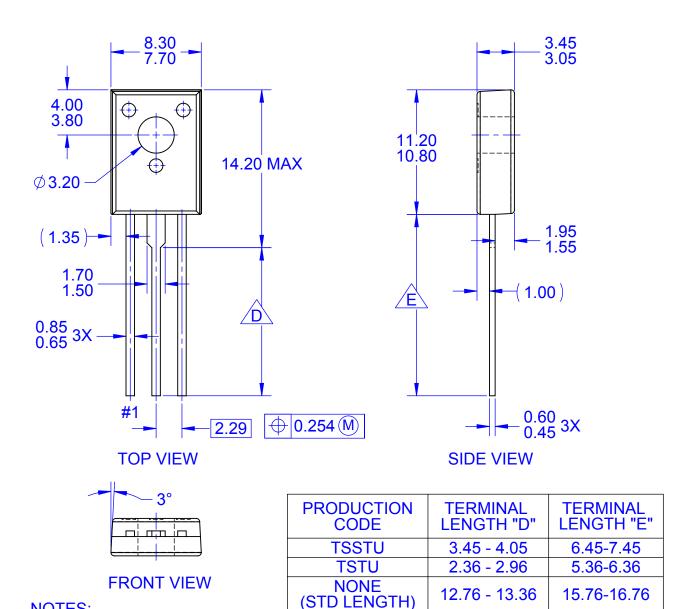


Figure 8. Power Derating



NOTES:

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