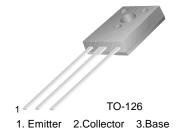


# KSC2682

# **Audio Frequency Power Amplifier**

Complement to KSA1142



# **NPN Epitaxial Silicon Transistor**

## **Absolute Maximum Ratings** $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	180	V
$V_{EBO}$	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	100	mA
P <sub>C</sub>	Collector Dissipation (T <sub>a</sub> =25°C)	1.2	W
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	8	W
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

# Electrical Characteristics $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I <sub>CBO</sub>	Collector Cut-off Current	$V_{CB} = 180V, I_{E} = 0$			1.0	μΑ
I <sub>EBO</sub>	Emitter Cut-off Current	$V_{EB} = 3V, I_{C} = 0$			1.0	μΑ
h <sub>FE1</sub> h <sub>FE2</sub>	* DC Current Gain	$V_{CE} = 5V, I_{C} = 1mA$ $V_{CE} = 5V, I_{C} = 10mA$	90 100	190 200	320	
V <sub>CE</sub> (sat)	* Collector-Emitter Saturation Voltage	$I_C = 50$ mA, $I_B = 5$ mA		0.12	0.5	V
V <sub>BE</sub> (sat)	* Base-Emitter Saturation Voltage	$I_C = 50$ mA, $I_B = 5$ mA		0.8	1.5	V
f <sub>T</sub>	Current Gain Bandwidth Product	$V_{CE} = 10V, I_{C} = 20mA$		200		MHz
C <sub>ob</sub>	Output Capacitance	$V_{CB} = 10V, I_{E} = 0$ f = 1MHz		3.2	5.0	pF
NF	Noise Figure	$V_{CE} = 10V$ , $I_{C} = 1mA$ $R_{S} = 10K\Omega$ , $f = 1kHz$		4		dB

<sup>\*</sup> Pulse Test: PW≤350μs, Duty Cycle≤2%

# **h**<sub>FE</sub> Classificntion

Classification	0	Y	
h <sub>FE2</sub>	100 ~ 200	160 ~ 320	

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# **Typical Characteristics**

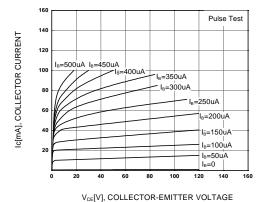


Figure 1. Static Characteristic

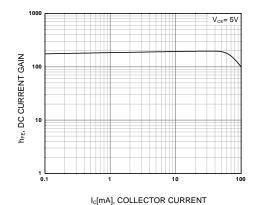


Figure 2. DC current Gain

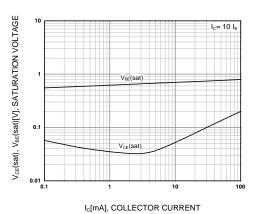


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

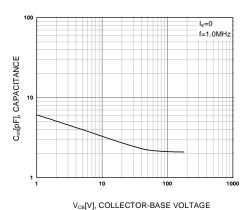


Figure 4. Collector Output Capacitance

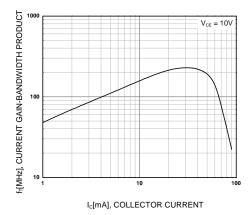


Figure 5. Current Gain Bandwidth Product

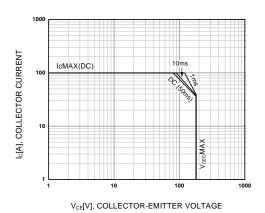
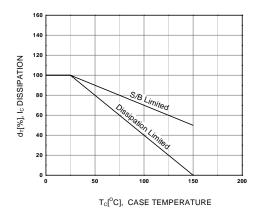
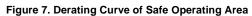


Figure 6. Safe Operating Area

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# Typical Characteristics (Continued)





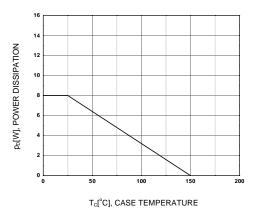
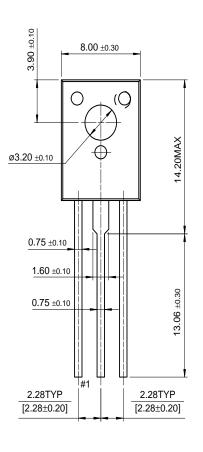


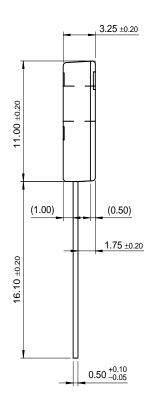
Figure 8. Power Derating

# **Package Demensions**

# KSC2682

TO-126





Dimensions in Millimeters

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