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FAIRCHILD SEMICONDUCTOR™

KSC2690/2690A

Audio Frequency
High Frequency Power Amplifier

- Complement to KSA1220/KSA1220A

1 TO-126

1. Emitter 2.Collector 3.Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: KSC2690	120	V
	: KSC2690A	160	V
V_{CEO}	Collector- Emitter Voltage		
	: KSC2690	120	V
	: KSC2690A	160	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	1.2	A
I_{CP}	*Collector Current (Pulse)	2.5	A
I_B	Base Current(DC)	0.3	A
P_C	Collector Dissipation (T_a=25°C)	1.2	W
P_C	Collector Dissipation (T_C=25°C)	20	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

* PW≤10ms, Duty Cycle≤50%

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB} = 120V, I_E = 0			1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 3V, I_C= 0			1	μA
h_{FE1}	* DC Current Gain	V_{CE} = 5V, I_C = 5mA	35	105		
h_{FE2}		V_{CE} = 5V, I_C = 0.3A	60	140	320	
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = 1A, I_B = 0.2A		0.4	0.7	V
V_{BE}(sat)	* Base-Emitter Saturation Voltage	I_C = 1A, I_B = 0.2A		1	1.3	V
f_T	Current Gain Bandwidth Product	V_{CE} = 5V, I_C = 0.2A		155		MHz
C_{ob}	Output Capacitance	V_{CB} =10V, I_E =0, f = 1MHz		19		pF

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

h_{FE} Classificntion

Classification	R	O	Y
h_{FE2}	60 ~ 120	100 ~ 200	160 ~ 320

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Typical Characteristics

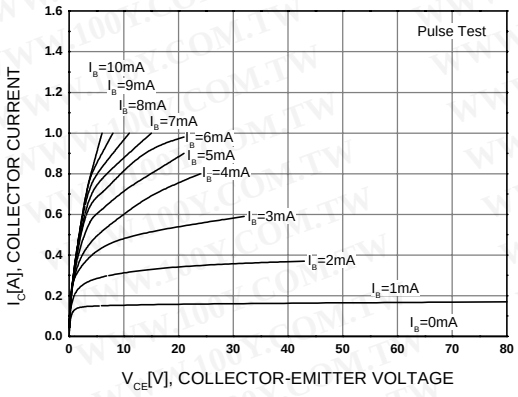

Figure 1. Static Characteristic

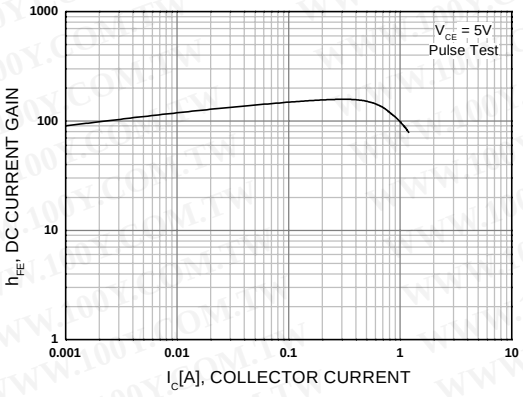

Figure 2. DC current Gain

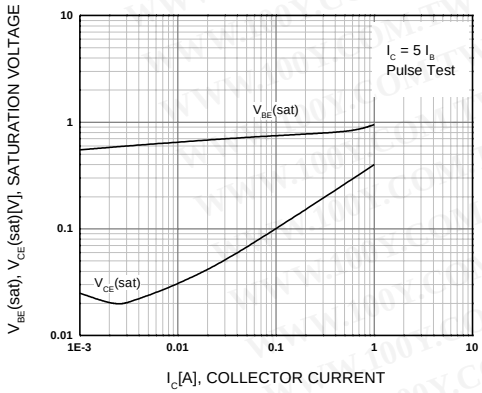

Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

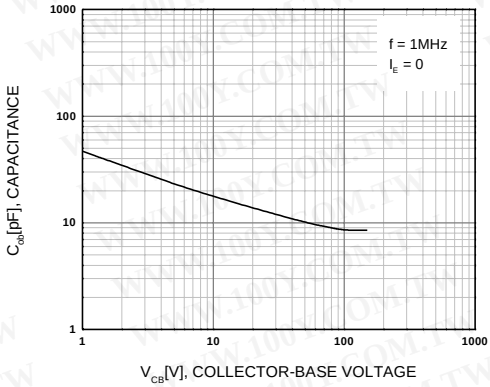

Figure 4. Collector Output Capacitance

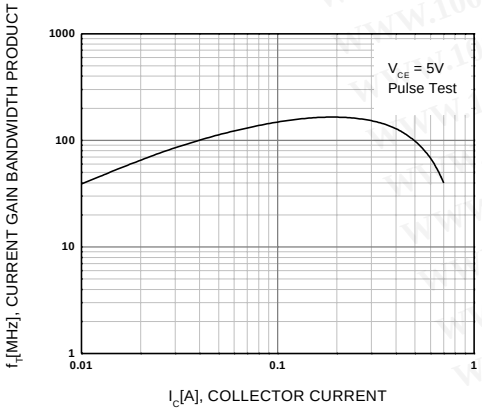

Figure 5. Current Gain Bandwidth Product

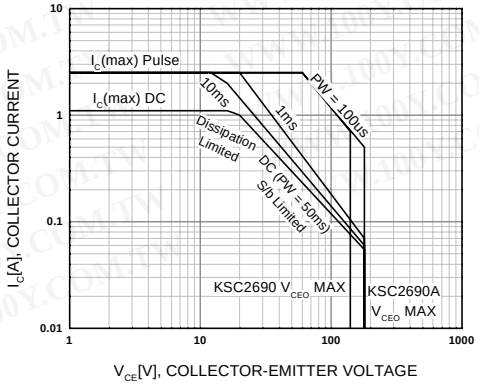

Figure 6. Safe Operating Area

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Typical Characteristics (Continued)

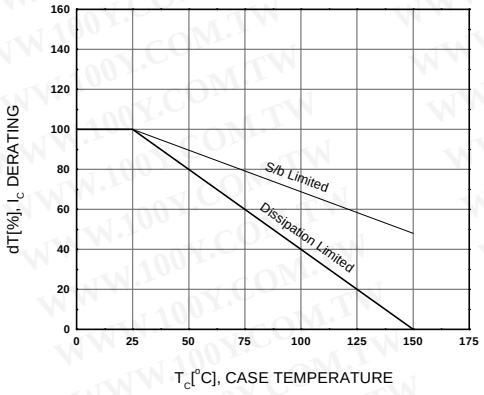

Figure 7. Derating Curve of Safe Operating Areas

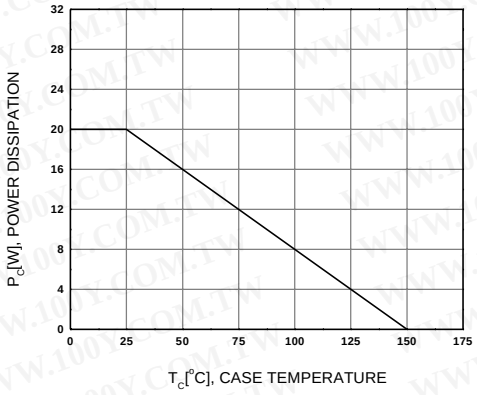

Figure 8. Power Derating

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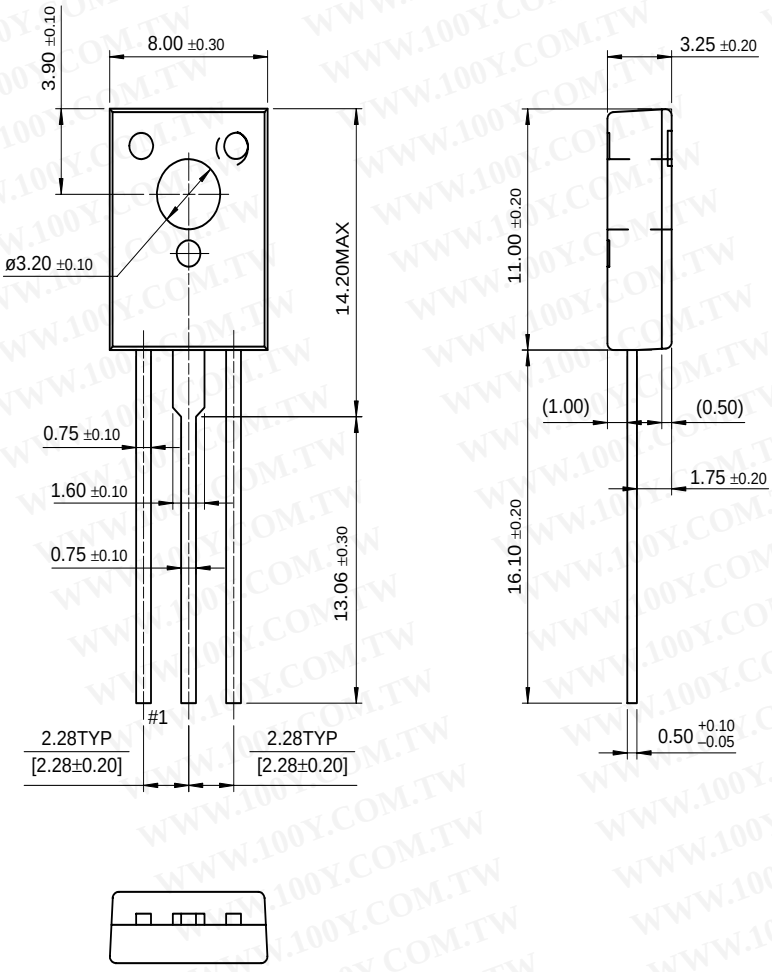
Package Demensions

TO-126



Dimensions in Millimeters

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Definition of Terms

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