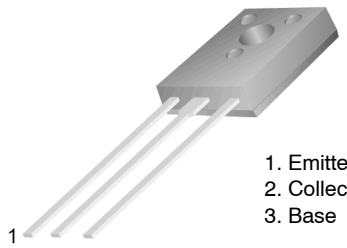
NPN Epitaxial Silicon Transistor

KSC2690A



1. Emitter
2. Collector
3. Base

TO−126−3LD
CASE 340AS

Features

- Complement to KSA1220A
- This is a Pb−Free Device

Applications

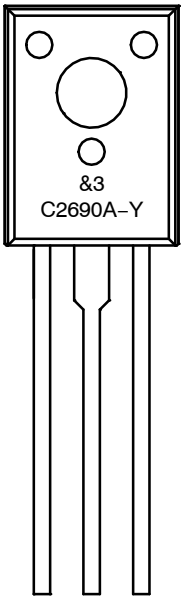
- Audio Frequency
- High Frequency Power Amplifier

ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector−Base Voltage	160	V
V_{CEO}	Collector−Emitter Voltage	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 T_C = 25°C	1.2 20	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	−55 ~ 150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.
*PW ≤ 10 ms, Duty Cycle ≤ 50%

MARKING DIAGRAM



&3 = 3−Digit Date Code
C2690A−Y = Specific Device Code

ORDERING INFORMATION

Device	Package	Shipping
KSC2690AYS	TO−126−3LD (Pb−Free)	2000 Units / Bulk Bag
KSC2690AYSTU	TO−126−3LD (Pb−Free)	1920 Units / Tube

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
*Pulse Test: PW ≤ 350 μs, Duty Cycle ≤ 2% Pulsed

h_{FE} CLASSIFICATION

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

TYPICAL CHARACTERISTICS

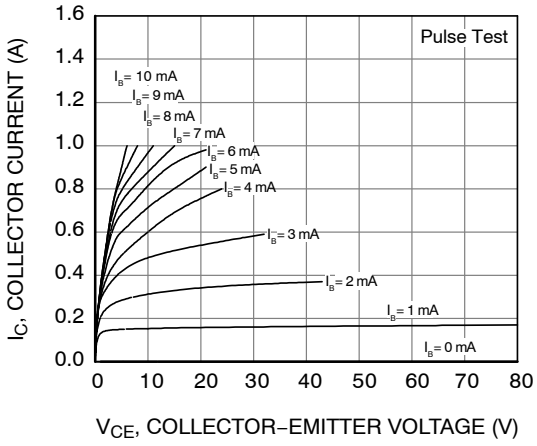

Figure 1. Static Characteristic

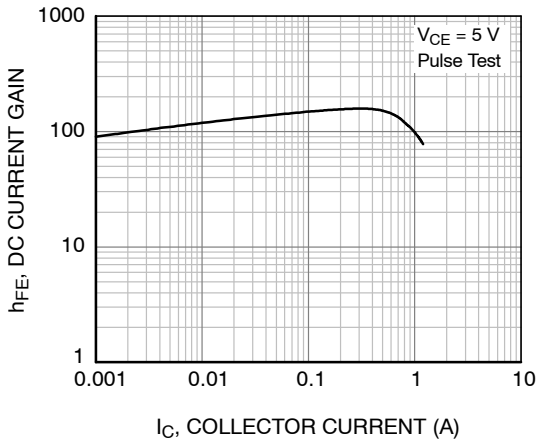

Figure 2. DC Current Gain

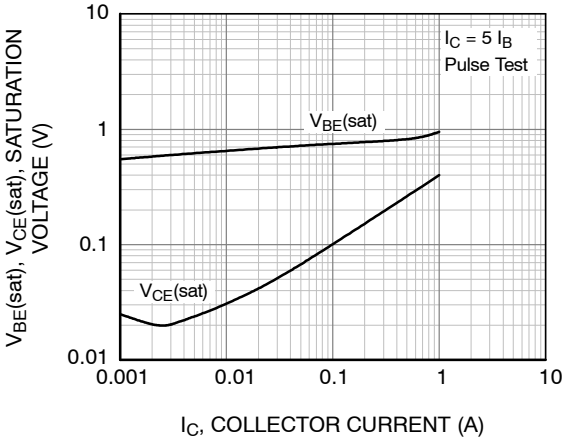

Figure 3. Collector−Emitter Saturation Voltage Base−Emitter Saturation Voltage

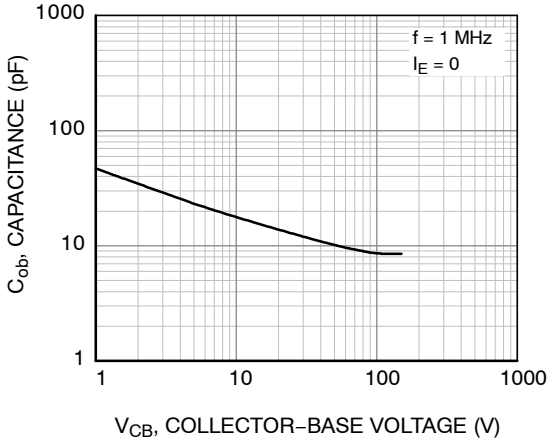

Figure 4. Collector Output Capacitance

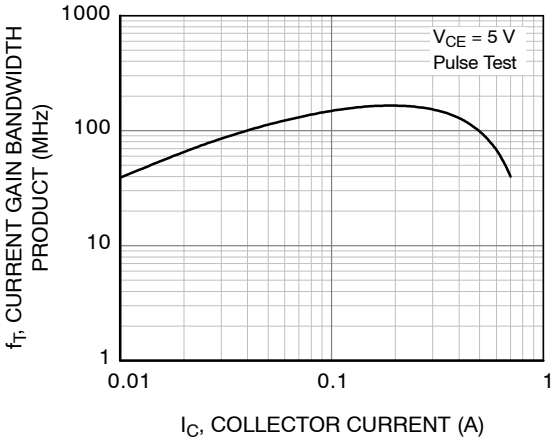

Figure 5. Current Gain Bandwidth Product

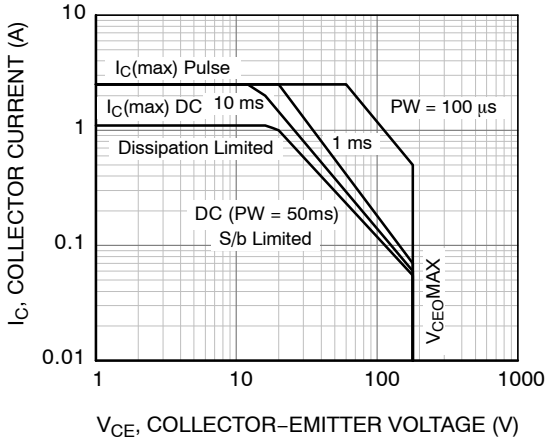

Figure 6. Safe Operating Area

TYPICAL CHARACTERISTICS (Continued)

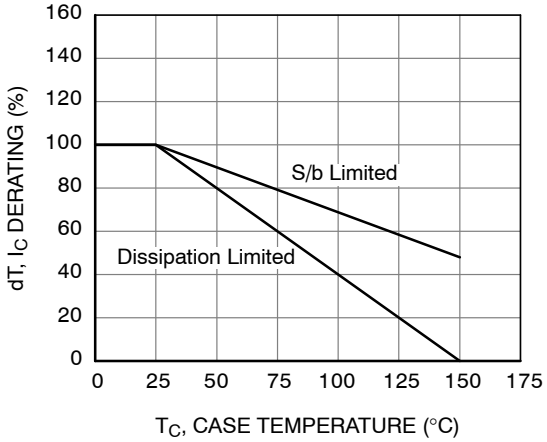

Figure 7. Derating Curve of Safe Operating Areas

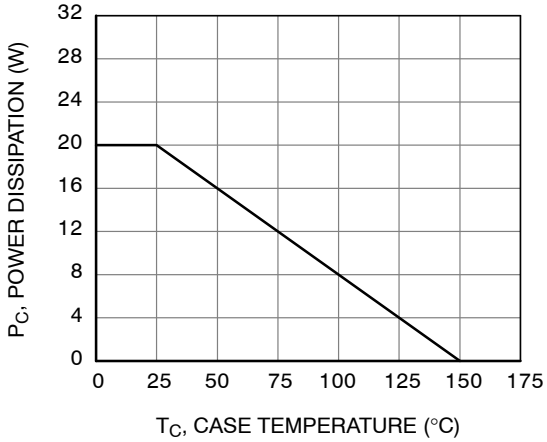

Figure 8. Power Derating

TO−126−3LD
CASE 340AS
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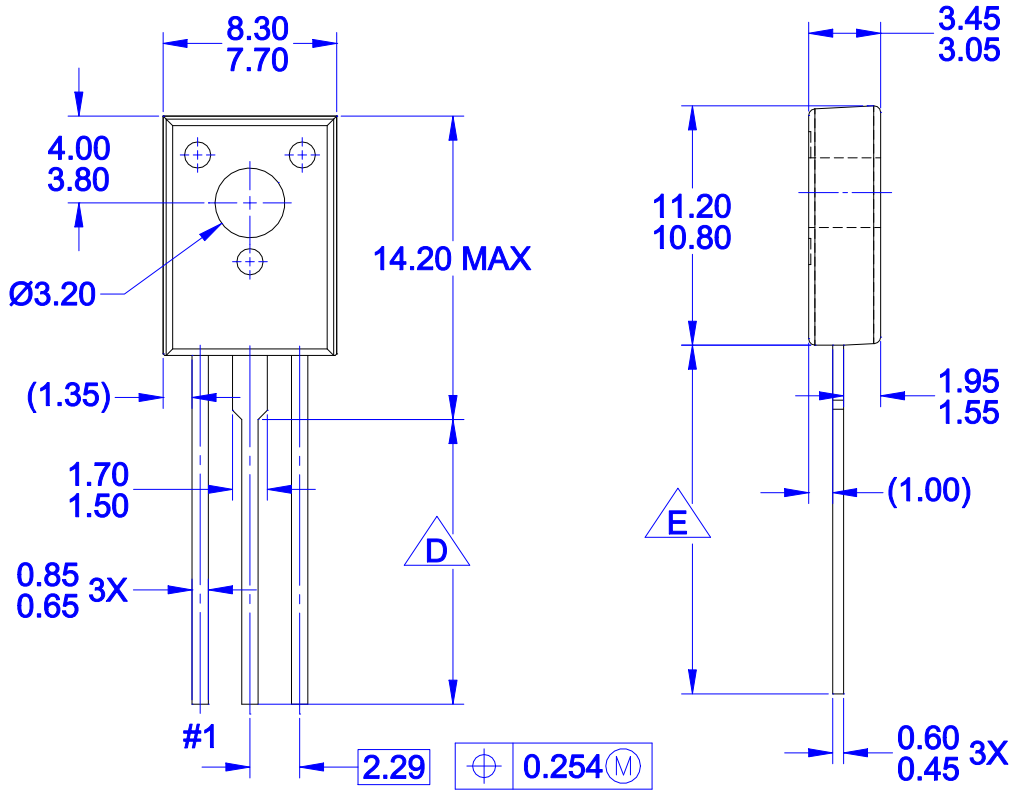
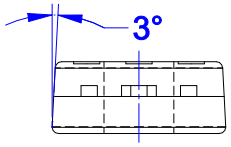
DATE 30 SEP 2016



TOP VIEW

SIDE VIEW



FRONT VIEW

PRODUCTION CODE	TERMINAL LENGTH "D"	TERMINAL LENGTH "E"
TSSTU	3.45 - 4.05	6.45 - 7.45
TSTU	2.36 - 2.96	5.36 - 6.36
NONE (STD LENGTH)	12.76 - 13.36	15.76 - 16.76

NOTES:

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B. ALL DIMENSIONS ARE IN MILLIMETERS
C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

D FOR TERMINAL LENGTH "D", REFER TO TABLE

E FOR TERMINAL LENGTH "E", REFER TO TABLE

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