

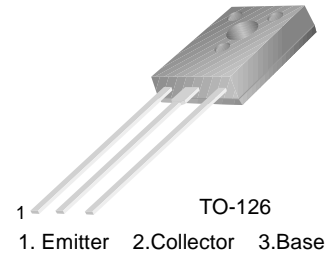


# KSE210

KSE210

## Feature

- Low Collector-Emitter Saturation Voltage
- High Current Gain Bandwidth Product :  $f_T=65\text{MHz}@I_C=-100\text{mA}$  (Min.)
- Complement to KSE200



## PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	- 40	V
$V_{CEO}$	Collector-Emitter Voltage	- 25	V
$V_{EBO}$	Emitter-Base Voltage	- 8	V
$I_C$	Collector Current	- 5	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = - 10\text{mA}, I_B = 0$	-25		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -40\text{V}, I_E = 0$ $V_{CB} = - 40\text{V}, I_E = 0 @ T_J = 125^\circ\text{C}$		-100 -100	nA $\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = - 8\text{V}, I_C = 0$		-100	nA
$h_{FE1}$ $h_{FE2}$ $h_{FE3}$	DC Current Gain	$V_{CE} = - 1\text{V}, I_C = - 500\text{mA}$ $V_{CE} = - 1\text{V}, I_C = - 2\text{A}$ $V_{CE} = - 2\text{V}, I_C = - 5\text{A}$	70 45 10	180	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = - 500\text{mA}, I_B = - 50\text{mA}$ $I_C = - 2\text{A}, I_B = - 200\text{mA}$ $I_C = - 5\text{A}, I_B = - 1\text{A}$		-0.3 -0.75 -1.8	V V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = - 5\text{A}, I_B = - 1\text{A}$		-2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = - 1\text{V}, I_C = - 2\text{A}$		-1.6	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = - 10\text{V}, I_C = - 100\text{mA}$	65		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = - 10\text{V}, I_E = 0, f = 1\text{MHz}$		120	pF

# Typical Characteristics

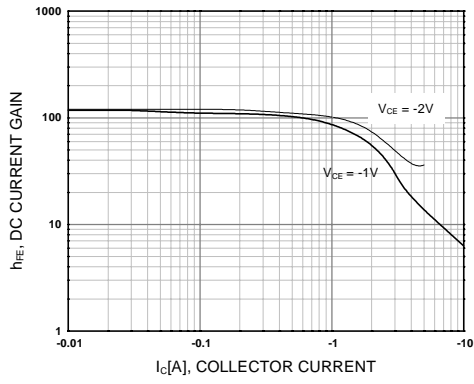


Figure 1. DC current Gain

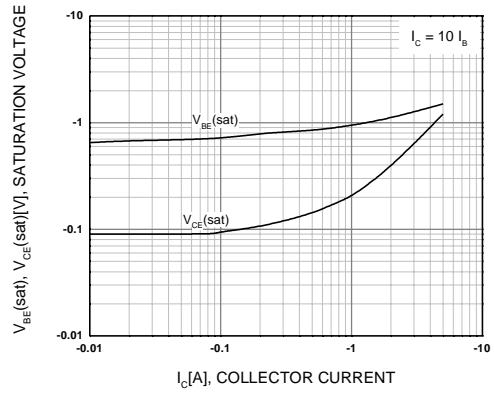


Figure 2. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

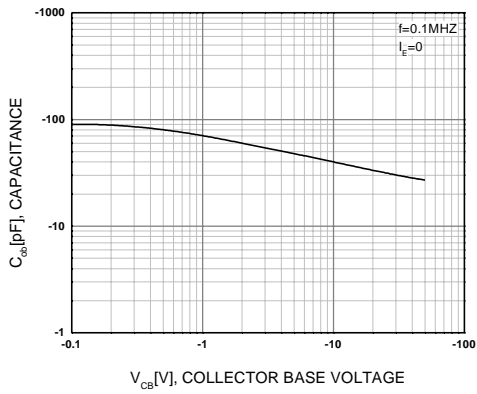


Figure 3. Collector Output Capacitance

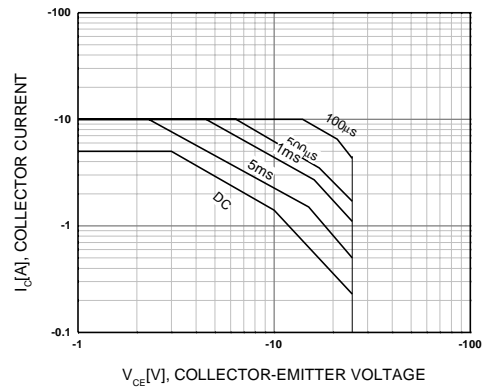


Figure 4. Safe Operating Area

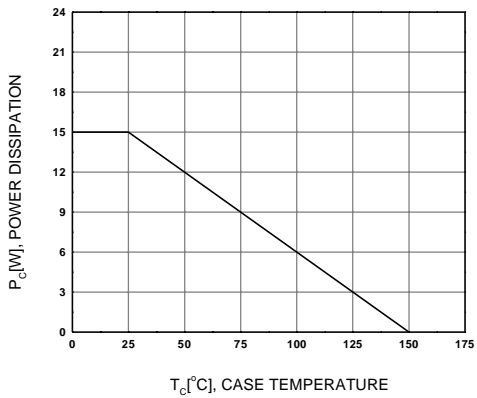
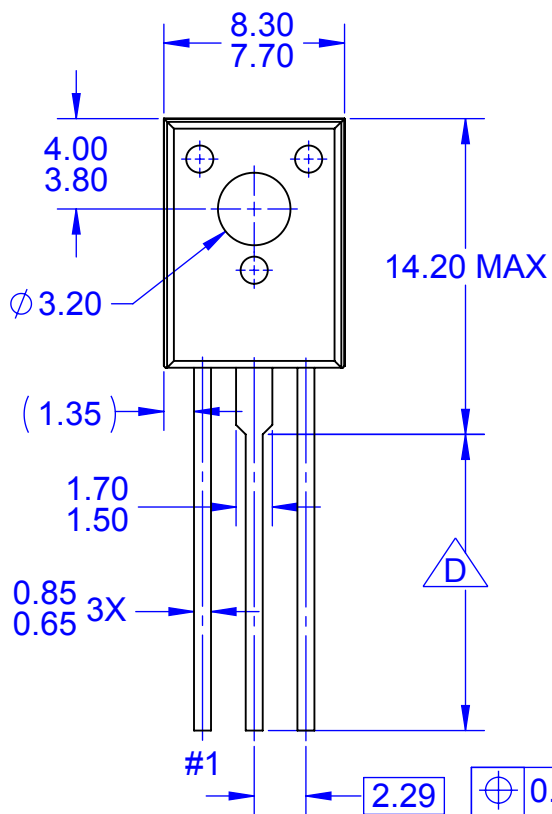
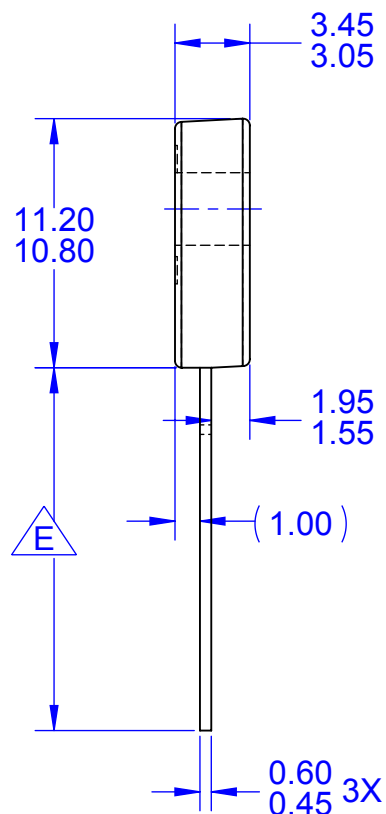


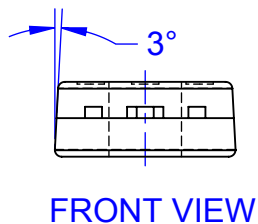
Figure 5. Power Derating



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

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 FOR TERMINAL LENGTH "D", REFER TO TABLE

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F. DRAWING FILENAME: MKT-TO126AArev2





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