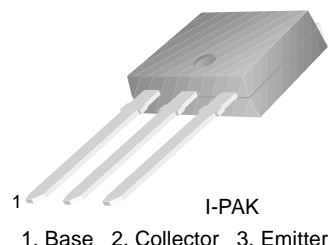


## Power Amplifier Application

- Complement to KSA1243



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	3	A
$I_B$	Base Current	0.6	A
$P_C$	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1	W
	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}, I_B = 0$	30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}, I_C = 0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 20\text{V}, I_E = 0$			1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			1	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$ $V_{CE} = 2\text{V}, I_C = 2.5\text{A}$	70 25		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.2\text{A}$		0.3	0.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$		0.75	1	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$		100		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		35		pF

### $h_{FE}$ Classification

Classification	O	Y
$h_{FE1}$	70 ~ 140	120 ~ 240

## Typical Characteristics

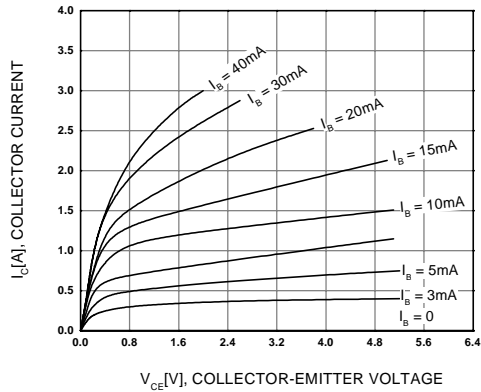


Figure 1. Static Characteristic

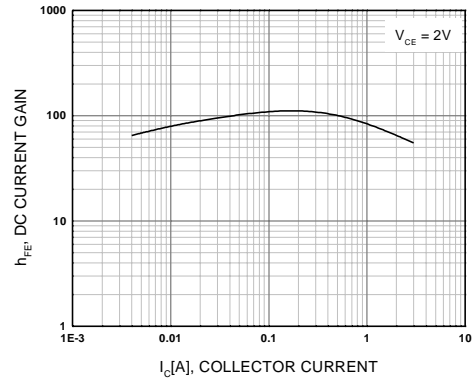


Figure 2. DC current Gain

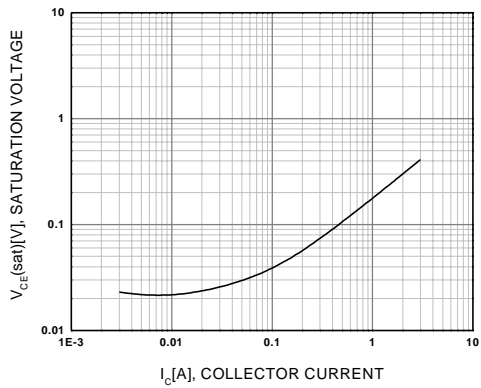


Figure 3. Collector-Emitter Saturation Voltage

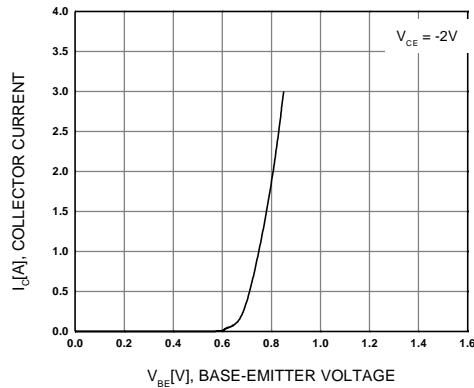


Figure 4. Base-Emitter on Voltage

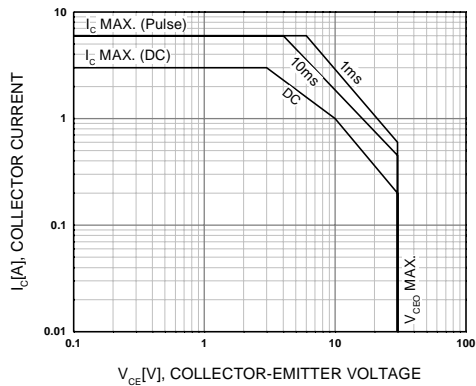


Figure 5. Safe Operating Area

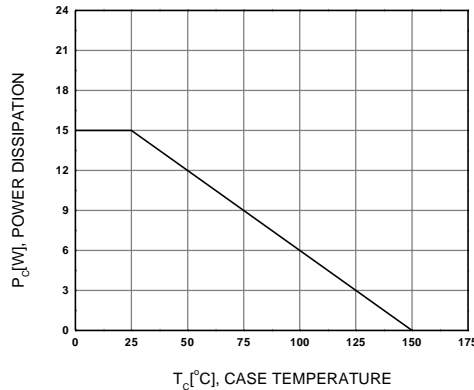
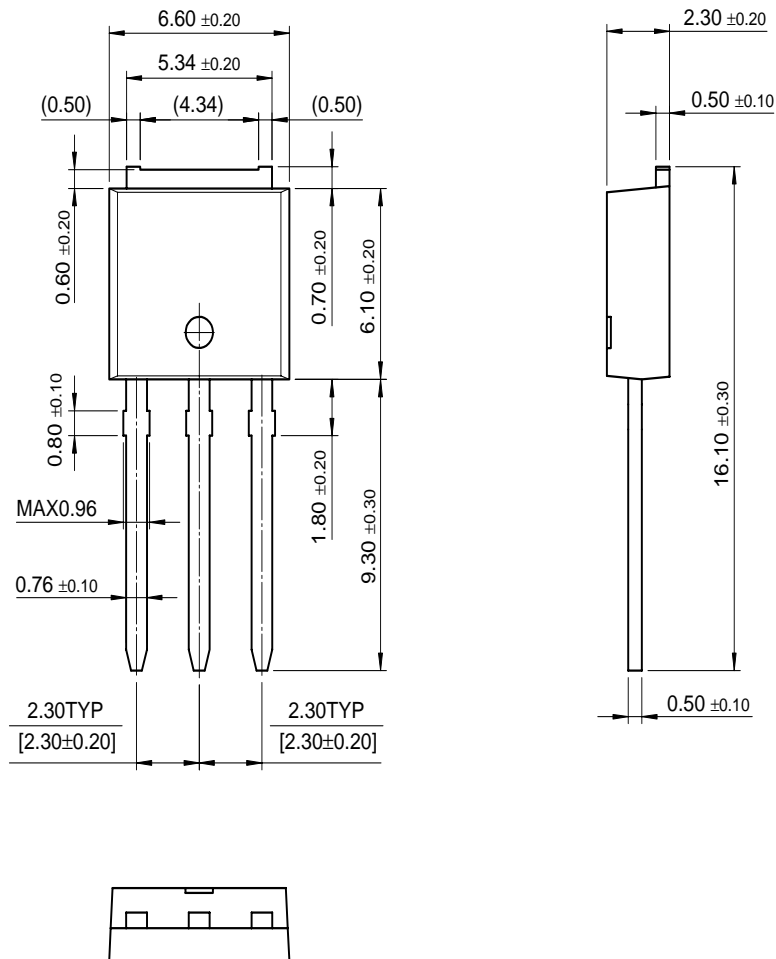


Figure 6. Power Derating

## Package Dimensions

## I-PAK



Dimensions in Millimeters

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