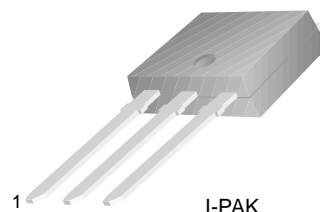


Power Amplifier Application

- Complement to KSA1243



I-PAK
1. Base 2. Collector 3. Emitter

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	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			1	μA
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

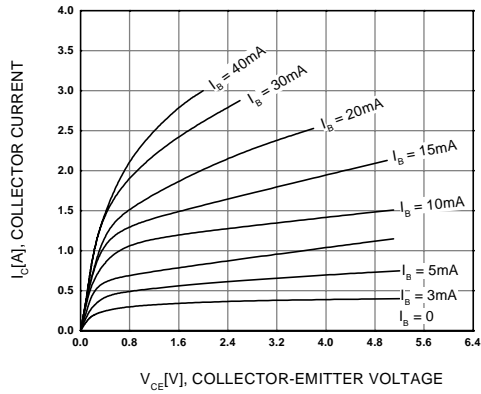


Figure 1. Static Characteristic

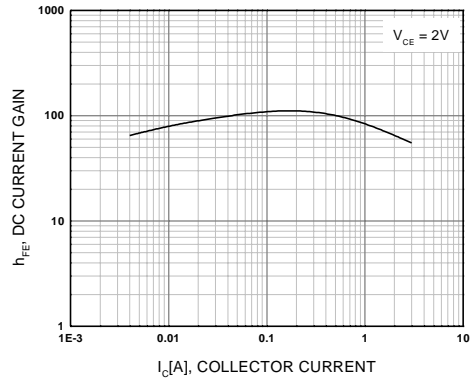


Figure 2. DC current Gain

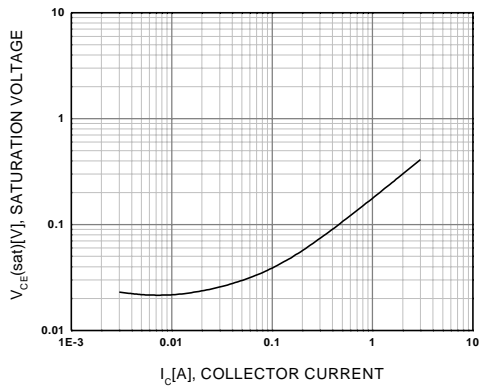


Figure 3. Collector-Emitter Saturation Voltage

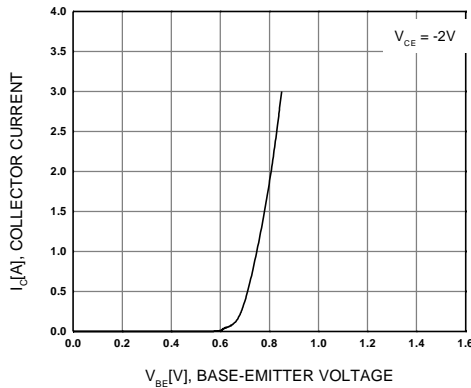


Figure 4. Base-Emitter on Voltage

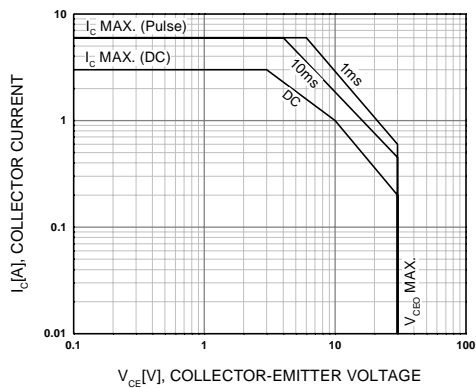


Figure 5. Safe Operating Area

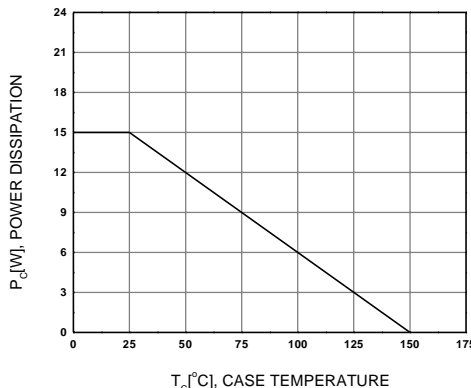
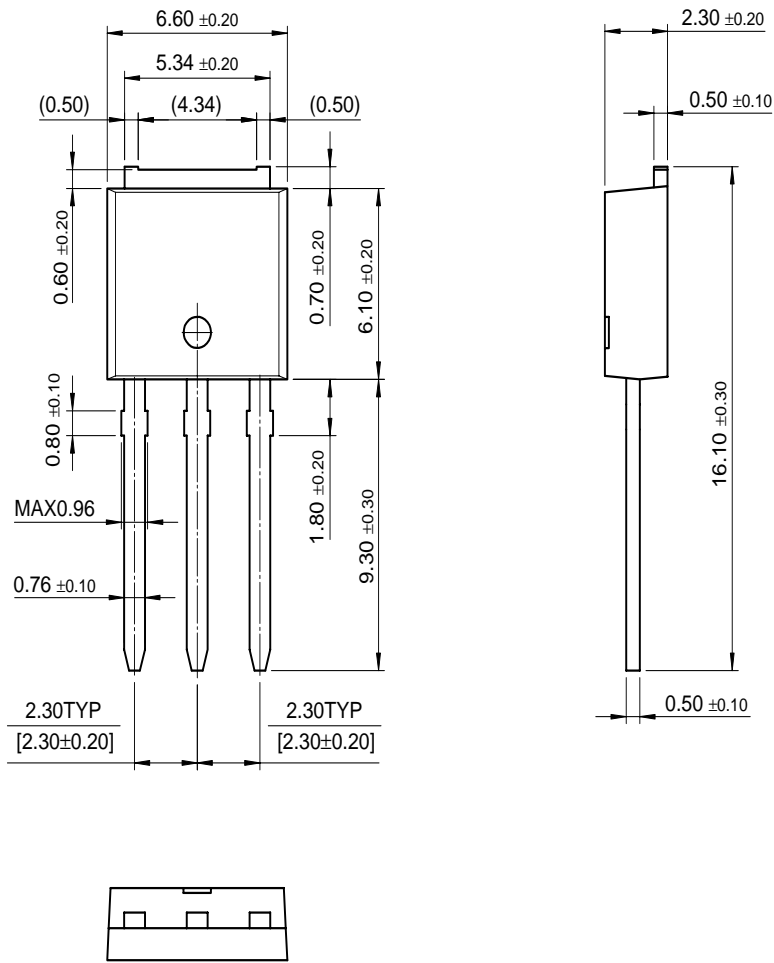


Figure 6. Power Derating

Package Dimensions

I-PAK



Dimensions in Millimeters

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