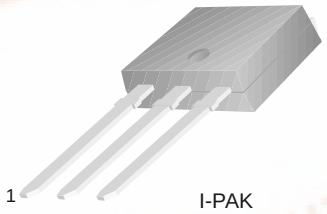
FAIRCHILD SEMICONDUCTOR®

KSC3073

Power Amplifier Application

- Complement to KSA1243



I-PAK

1. Base 2. Collector 3. Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°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°C)	1	W
	Collector Dissipation (T_C=25°C)	15	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

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

h_{FE} Classification

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

Typical Characteristics

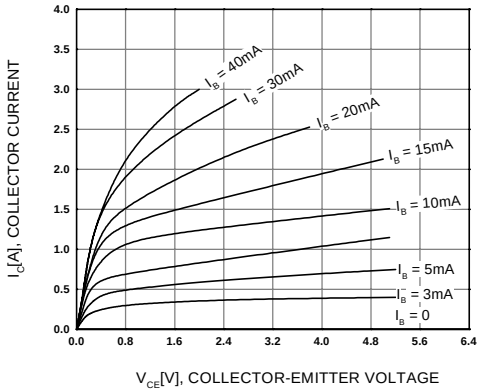


Figure 1. Static Characteristic

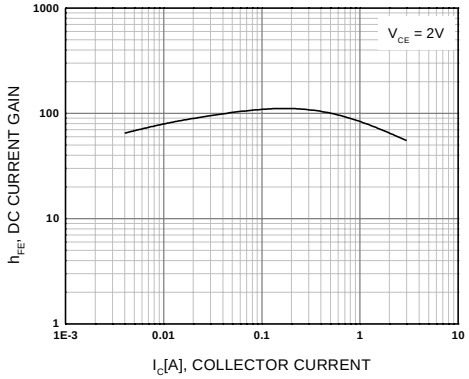


Figure 2. DC current Gain

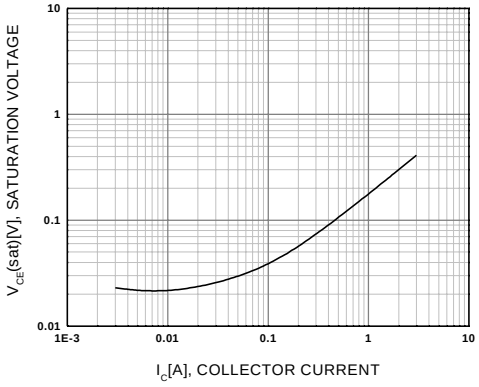


Figure 3. Collector-Emitter Saturation Voltage

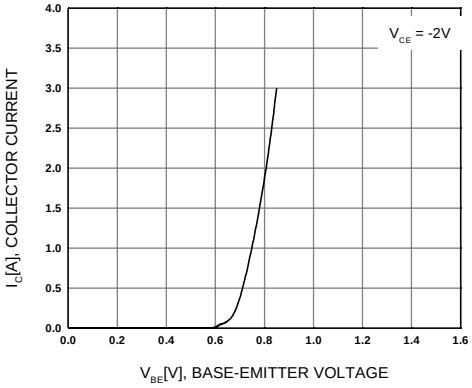


Figure 4. Base-Emitter on Voltage

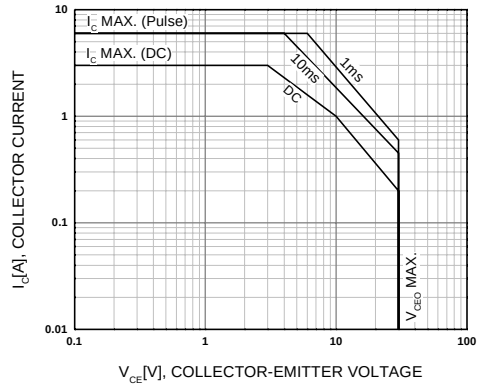


Figure 5. Safe Operating Area

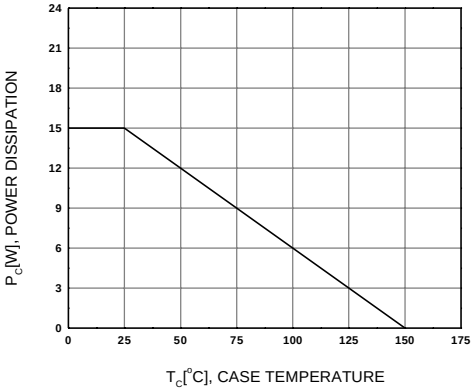
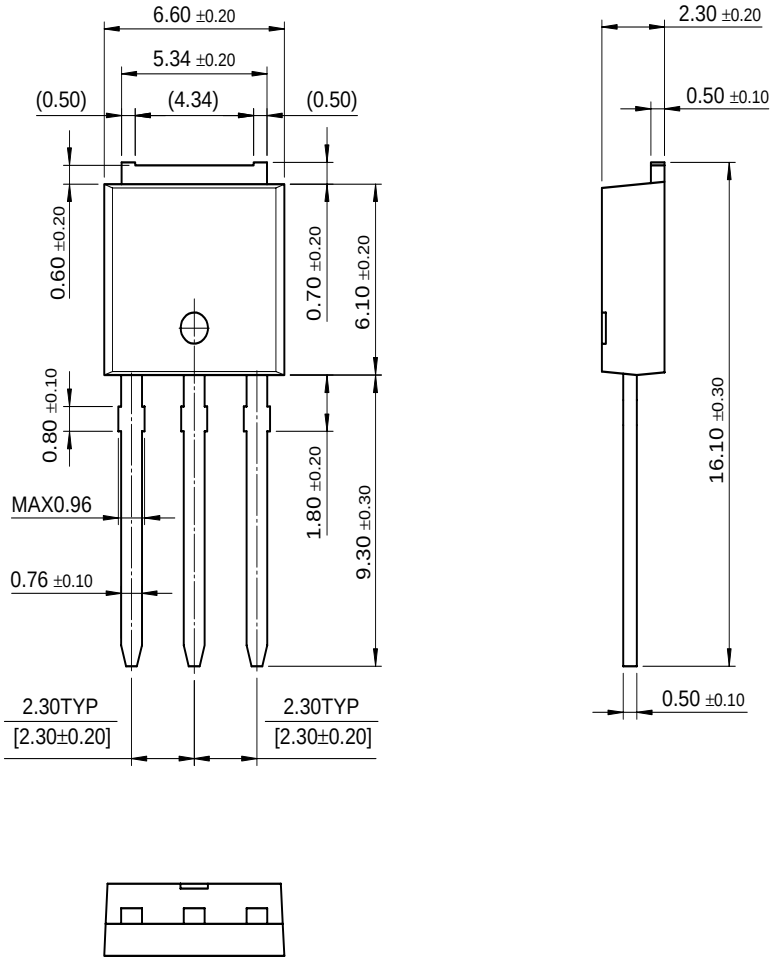


Figure 6. Power Derating

Package Dimensions

I-PAK



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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