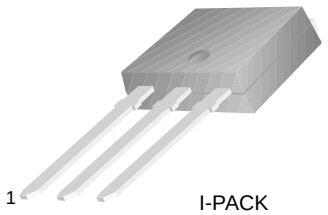
FAIRCHILD SEMICONDUCTOR™

KSC3074

High Power Switching

- Complement to KSA1244



I-PACK

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	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	5	A
I_B	Base Current	1	A
P_C	Collector Dissipation (T_a=25°C)	1	W
P_C	Collector Dissipation (T_C=25°C)	20	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	50			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 50V, 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} = 1V, I_C = 1A V_{CE} = 1V, I_C = 3A	70 30		240	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C= 3A, I_B = 0.15A			0.5	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C= 3A, I_B = 0.15A		0.9	1.2	V
f_T	Current Gain Bandwidth Product	V_{CE} = 4V, I_C = 1A		120		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V, f = 1MHz		80		pF
t_{ON}	Turn ON Time	V_{CC} = 30V, I_C= 3A I_{B1}= - I_{B2}=0.15A R_L = 10Ω		0.1		µs
t_{STG}	Storage Time			1		µs
t_F	Fall Time			0.1		µs

h_{FE} Classification

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

Typical Characteristics

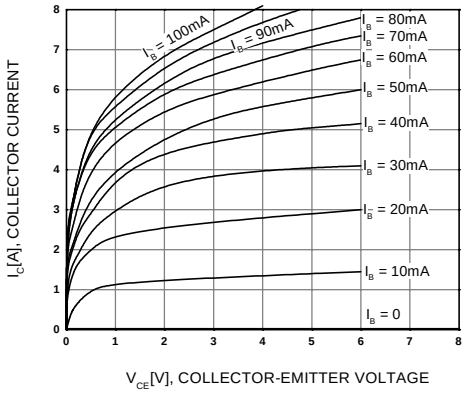


Figure 1. Static Characteristic

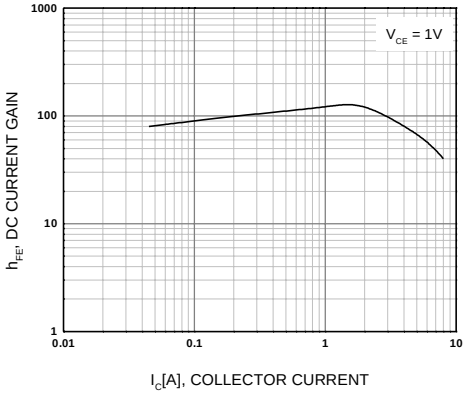


Figure 2. DC current Gain

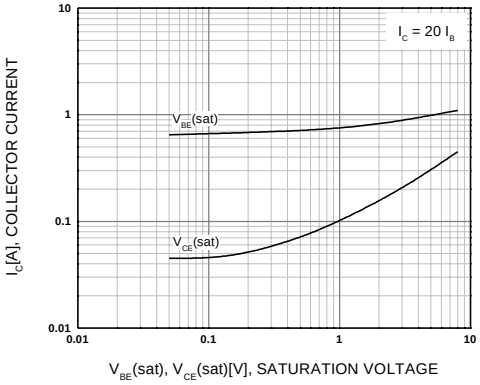


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

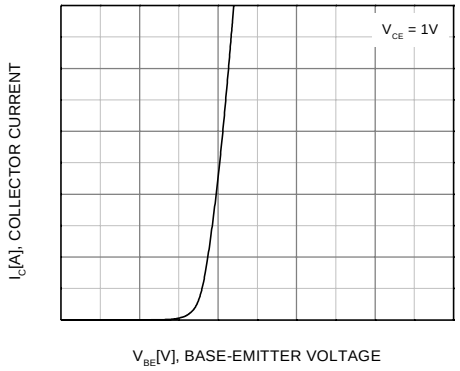


Figure 4. Base-Emitter on Voltage

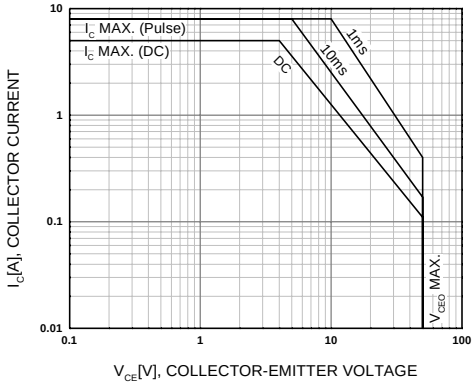


Figure 5. Safe Operating Area

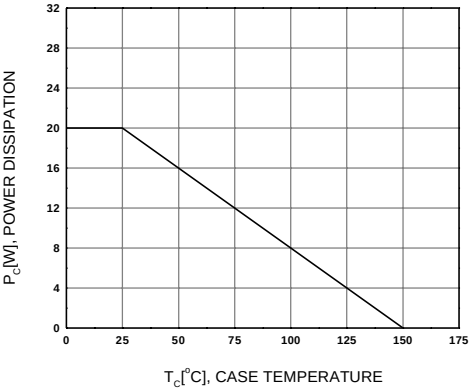
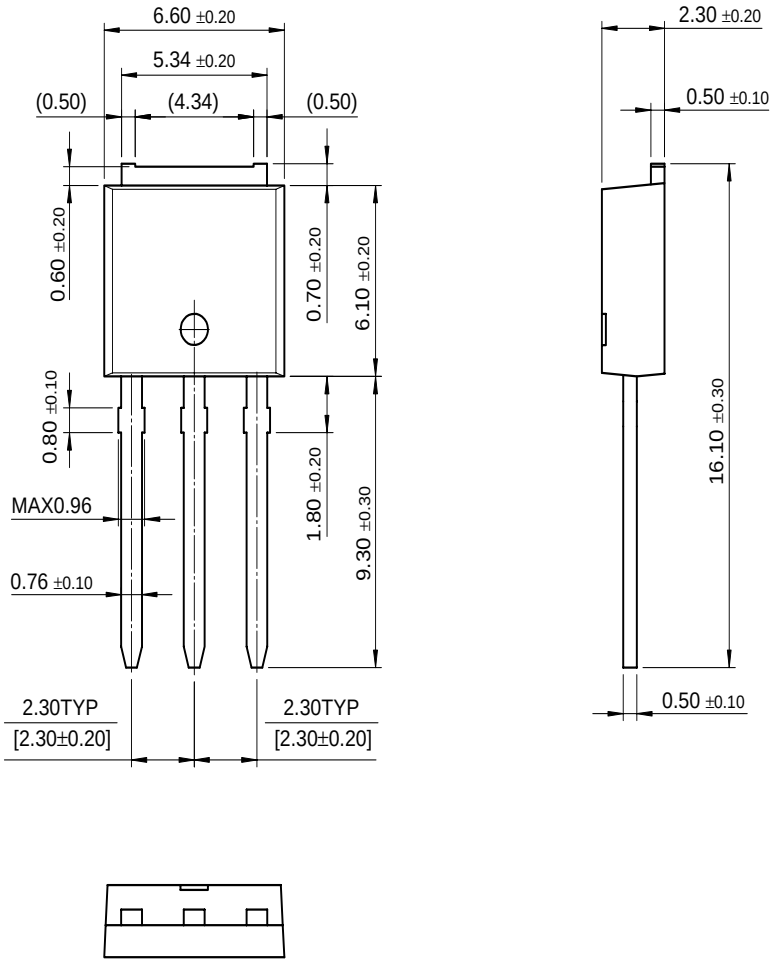


Figure 6. Power Derating

Package Demensions

I-PAK



Dimensions in Millimeters

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