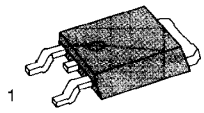
KSH31/31C NPN EPITAXIAL SILICON TRANSISTOR

GENERAL PURPOSE AMPLIFIER
LOW SPEED SWITCHING APPLICATIONS
D-PACK FOR SURFACE MOUNT APPLICATIONS

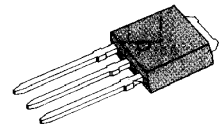
Load Formed for Surface Mount Application (No Suffix)
Straight Lead (I.ACK, "- I" Suffix)
Electrically Similar to Popular TIP31 and TIP31C

D-PAK



1. Base 2. Collector 3. Emitter

I-PAK



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : KSH31	V_{CBO}	40	V
: KSH31C		100	V
Collector Emitter Voltage : KSH31	V_{CEO}	40	V
: KSH31C		100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	3	A
Collector Current (Pulse)	I_C	1	A
Base Current	I_B	1	A
Collector Dissipation (T_C=25°C)	P_C	15	W
Collector Dissipation (T_A=25°C)	P_C	1.56	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-65 ~ 150	°C

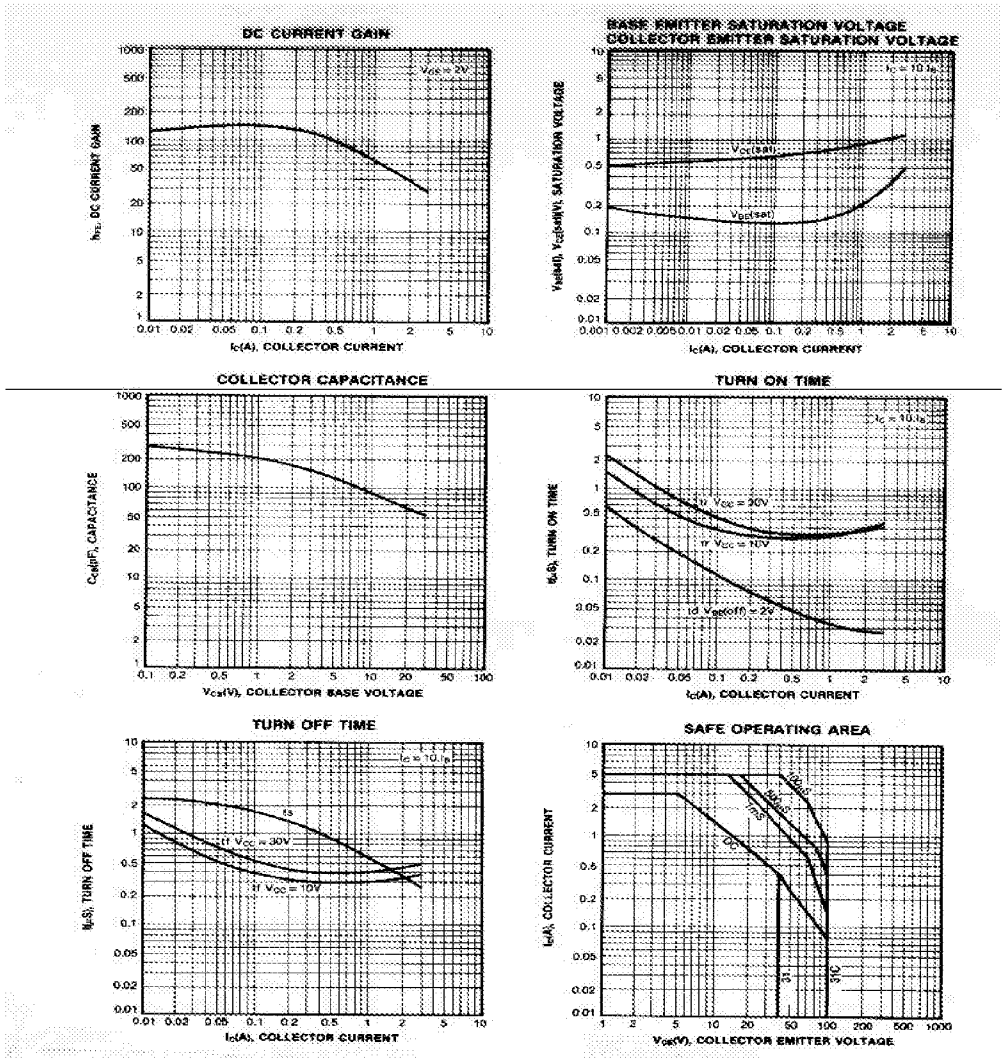
ELECTRICAL CHARACTERISTICS (T_C =25°C)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage : KSH31	V_{CEO}(sus)	I_C = 30mA, I_B = 0	40		V
: KSH31C			100		V
Collector Cutoff Current : KSH31	I_{CEO}	V_{CE} = 40V, I_B = 0		50	μA
: KSH31C		V_{CE} = 60V, I_B = 0		50	μA
Collector Cutoff Current : KSH31	I_{CES}	V_{CE} = 40V, V_{BE} = 0		20	μA
: KSH31C		V_{CE} = 100V, V_{BE} = 0		20	μA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 5V, I_C = 0		1	mA
* DC Current Gain	h_{FE}	V_{CE} = 4V, I_C = 1A	25		
		V_{CE} = 4V, I_C = 3A	10	50	
* Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C = 3A, I_B = 375mA		1.2	V
* Base Emitter On Voltage	V_{BE}(on)	V_{CE} = 4A, I_C = 3A		1.8	V
Current Gain Bandwidth Product	f_T	V_{CE} = 10V, I_C = 500mA	3		MHz
		f = 1MHz			

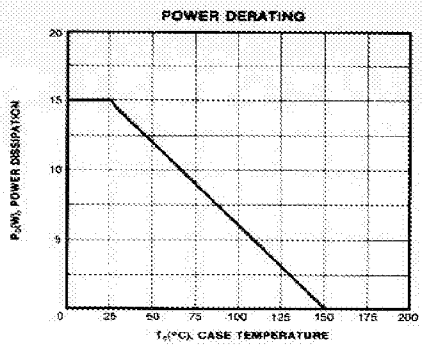
* Pulse Test: PW≤300μs, Duty Cycle≤2%

Rev. B

FAIRCHILD SEMICONDUCTOR™



FAIRCHILD SEMICONDUCTOR™



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SEMICONDUCTOR TM