FAIRCHILD SEMICONDUCTOR®

April 2010

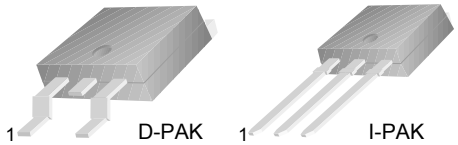
MJD45H11
PNP Epitaxial Silicon Transistor

Applications

- General Purpose Power and Switching Such as Output or Driver Stages in Applications
- D-PAK for Surface Mount Applications

Features

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK: “-I” Suffix)
- Electrically Similar to Popular MJE45H
- Fast Switching Speeds
- Low Collector Emitter Saturation Voltage



1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	- 80	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 8	A
I_{CP}	Collector Current (Pulse)	- 16	A
P_C	Collector Dissipation (T_C=25°C)	20	W
	Collector Dissipation (T_A=25°C)	1.75	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 to +150	°C

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}(sus)	*Collector-Emitter Sustaining Voltage	I_C = - 30mA, I_B = 0	- 80			V
I_{CEO}	Collector Cut-off Current	V_{CE} = - 80V, I_B = 0			- 10	μA
I_{EBO}	Emitter Cut-off Current	V_{BE} = - 5V, I_C = 0			- 50	μA
h_{FE}	*DC Current Gain	V_{CE} = - 1V, I_C = - 2A V_{CE} = - 1V, I_C = - 4A	60 40			
V_{CE}(sat)	*Collector-Emitter Saturation Voltage	I_C = - 8A, I_B = - 0.4A			- 1	V
V_{BE}(on)	*Base-Emitter Saturation Voltage	I_C = - 8A, I_B = - 0.8A			- 1.5	V
f_T	Current Gain Bandwidth Product	V_{CE}= - 10A, I_C = - 0.5A		40		MHz
C_{ob}	Collector Capacitance	V_{CB} = - 10V, f = 1MHz		230		pF
t_{ON}	Turn On Time	I_C = - 5A I_{B1}= - I_{B2} = - 0.5A		135		ns
t_{STG}	Storage Time			500		ns
t_F	Fall Time			100		ns

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Typical Performance Characteristics

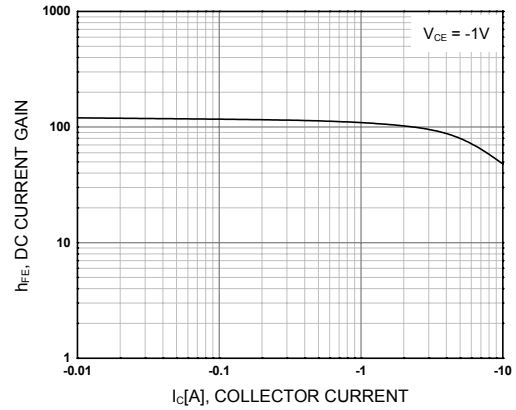


Figure 1. DC current Gain

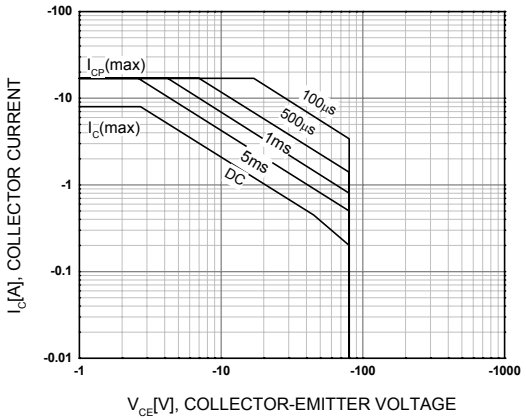


Figure 2. Safe Operating Area

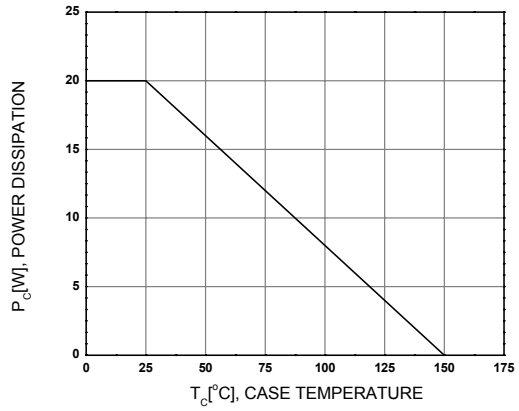


Figure 3. Power Derating vs T_C

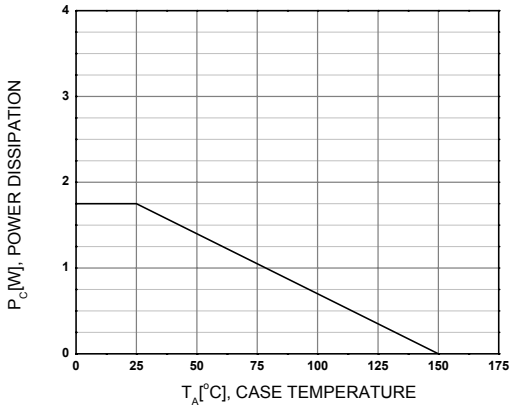
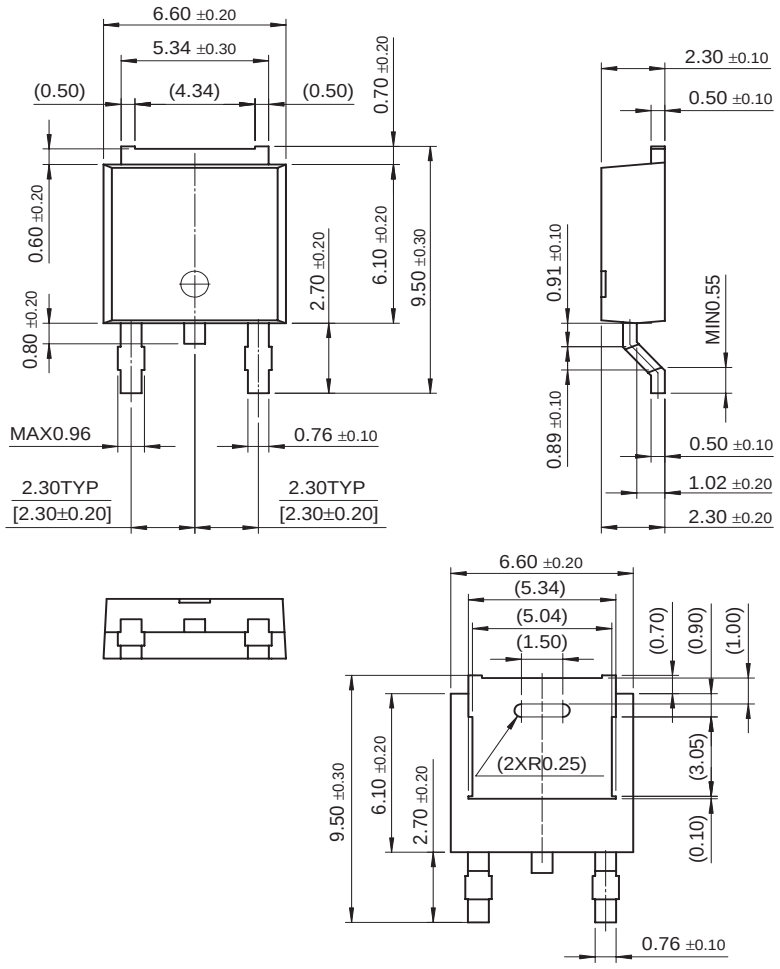


Figure 4. Power Derating vs T_A

Physical Dimension

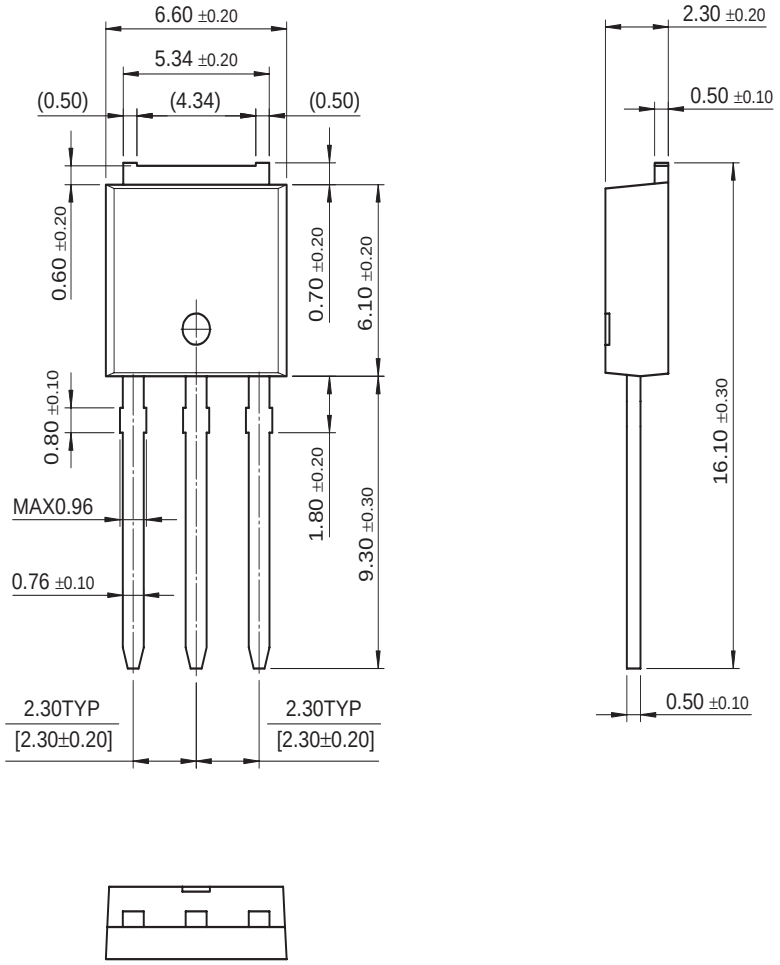
D-PAK



Dimensions in Millimeters

Physical Dimension (Continued)

I-PAK



Dimensions in Millimeters

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Rev. I47