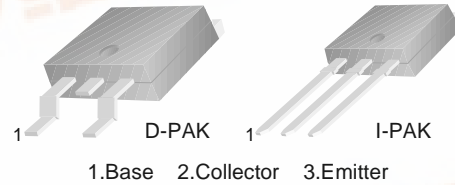


**FAIRCHILD**  
SEMICONDUCTOR®

## MJD41C

**General Purpose Amplifier**  
**Low Speed Switching Applications**  
**D-PAK for Surface Mount Applications**

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK, "- I" Suffix)
- Electrically Similar to Popular TIP41 and TIP41C



### NPN Epitaxial Silicon Transistor

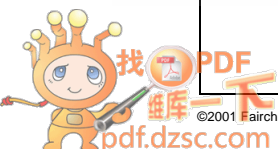
**Absolute Maximum Ratings**  $T_C=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	6	A
$I_{CP}$	Collector Current (Pulse)	10	A
$I_B$	Base Current	2	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	20	W
	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1.75	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

**Electrical Characteristics**  $T_C=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$V_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage	$I_C = 30\text{mA}, I_B = 0$	100		V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = 60\text{V}, I_B = 0$		50	$\mu\text{A}$
$I_{CES}$	Collector Cut-off Current	$V_{CE} = 100\text{V}, V_{BE} = 0$		10	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = 5\text{V}, I_C = 0$		0.5	mA
$h_{FE}$	* DC Current Gain	$V_{CE} = 4\text{V}, I_C = 0.3\text{A}$	30		
		$V_{CE} = 4\text{V}, I_C = 3\text{A}$	15	75	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 6\text{A}, I_B = 600\text{mA}$		1.5	V
$V_{BE(on)}$	* Base-Emitter ON Voltage	$V_{CE} = 6\text{A}, I_C = 4\text{A}$		2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 500\text{mA}$	3		MHz

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$



# Typical Characteristics

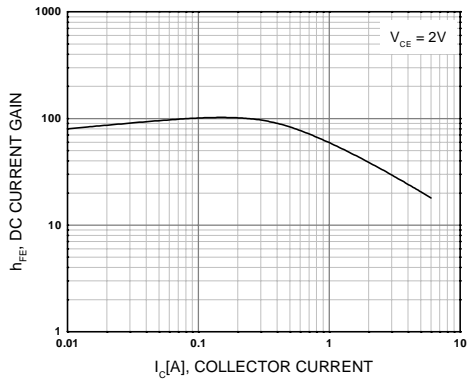


Figure 1. DC current Gain

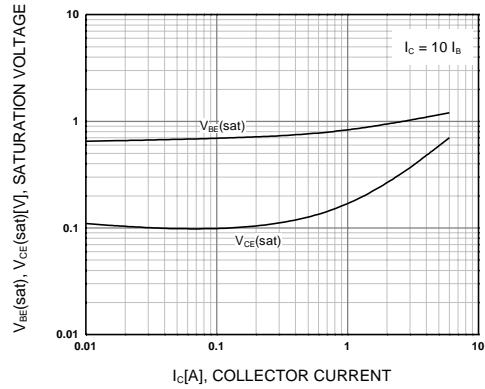


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

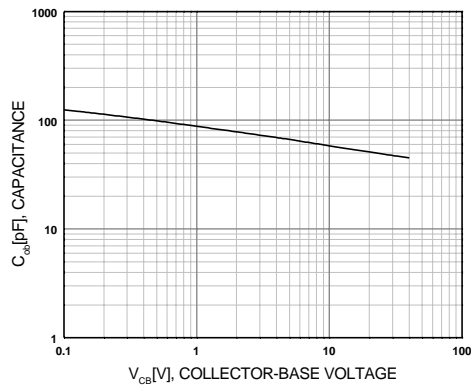


Figure 3. Collector Capacitance

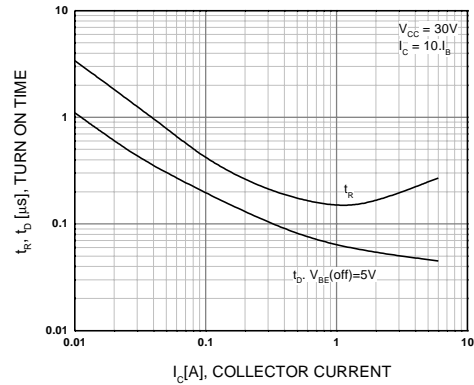


Figure 4. Turn On Time

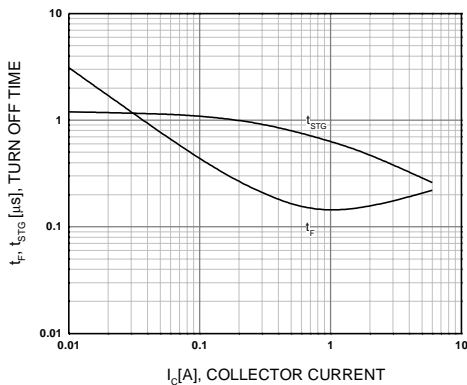


Figure 5. Turn Off Time

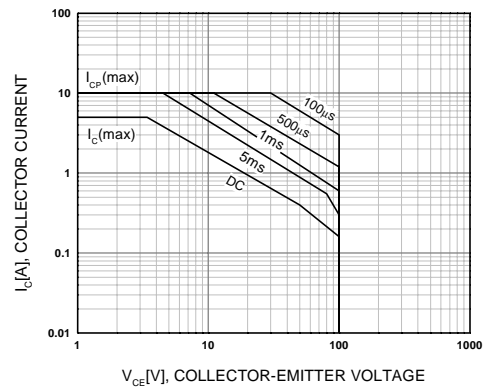


Figure 6. Safe Operating Area

### Typical Characteristics (Continued)

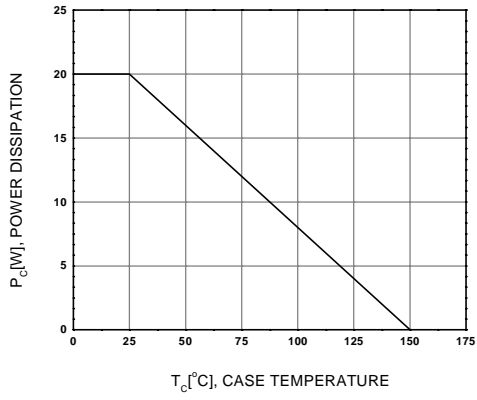
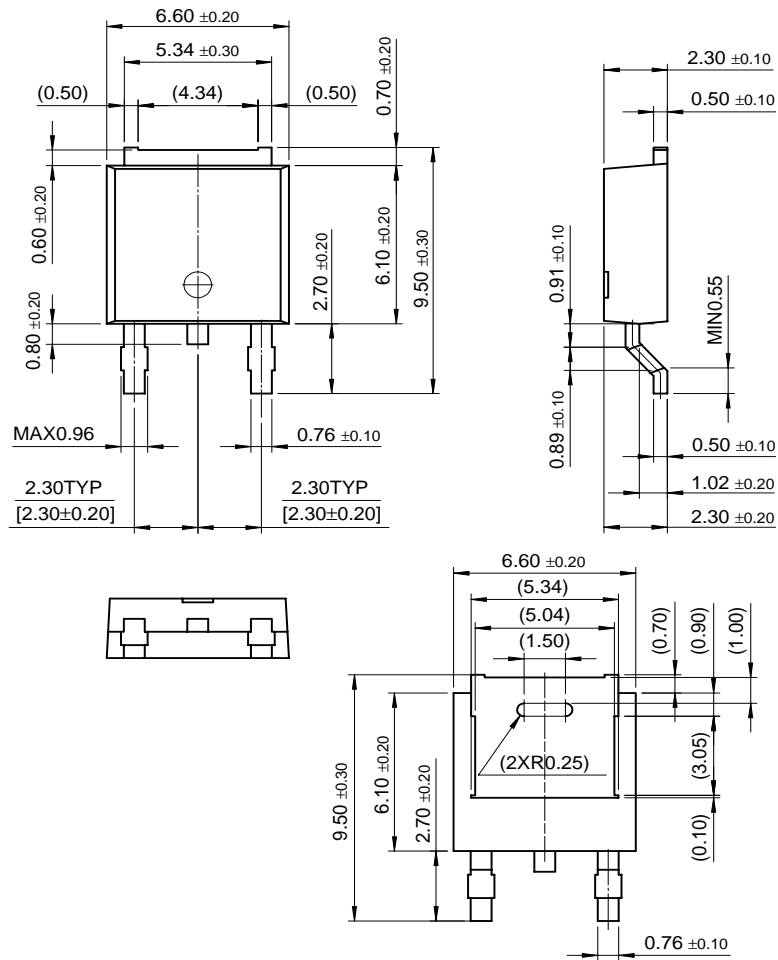


Figure 7. Power Derating

# Package Dimensions

## D-PAK



Dimensions in Millimeters

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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