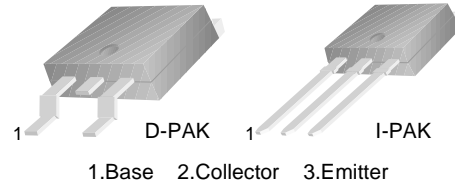


MJD30/30C

General Purpose Amplifier Low Speed Switching Applications

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK, "- I" Suffix)
- Electrically Similar to Popular TIP30 and TIP30C



PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: MJD30	- 40	V
	: MJD30C	- 100	V
V_{CEO}	Collector-Emitter Voltage		
	: MJD30	- 40	V
	: MJD30C	- 100	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 1	A
I_{CP}	Collector Current (Pulse)	- 3	A
I_B	Base Current	- 4	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	15	W
	Collector Dissipation ($T_a=25^\circ\text{C}$)	1.56	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				
	: MJD30	$I_C = - 30\text{mA}, I_B = 0$	- 40		V
	: MJD30C		- 100		V
I_{CEO}	Collector Cut-off Current				
	: MJD30	$V_{CE} = - 40\text{V}, I_B = 0$		- 50	μA
	: MJD30C	$V_{CE} = - 60\text{V}, I_B = 0$		- 50	μA
I_{CES}	Collector Cut-off Current				
	: MJD30	$V_{CE} = - 40\text{V}, V_{BE} = 0$		- 20	μA
	: MJD30C	$V_{CE} = 100\text{V}, V_{BE} = 0$		- 20	μA
I_{EBO}	Emitter Cut-off Current	$V_{BE} = - 5\text{V}, I_C = 0$		- 1	mA
h_{FE}	* DC Current Gain		40		
		$V_{CE} = - 4\text{V}, I_C = - 0.2\text{A}$	15	75	
		$V_{CE} = - 4\text{V}, I_C = - 1\text{A}$			
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = - 1\text{A}, I_B = - 125\text{mA}$		- 0.7	V
$V_{BE(on)}$	* Base-Emitter ON Voltage	$V_{CE} = - 4\text{A}, I_C = - 1\text{A}$		- 1.3	V
f_T	Current Gain Bandwidth Product	$V_{CE} = - 10\text{V}, I_C = - 200\text{mA}$	3		MHz

* Pulse Test: $PW \leq 300\text{ms}$, Duty Cycles $\leq 2\%$

Typical Characteristics

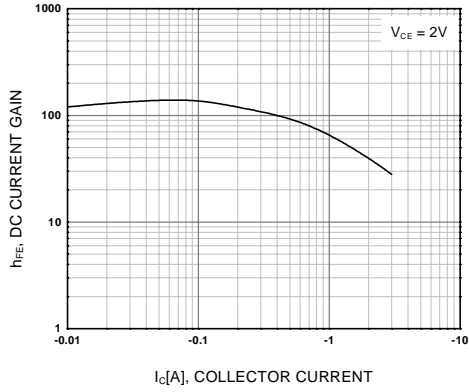


Figure 1. DC current Gain

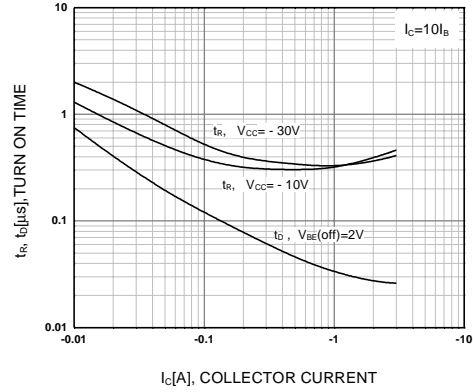


Figure 2. Turn On Time

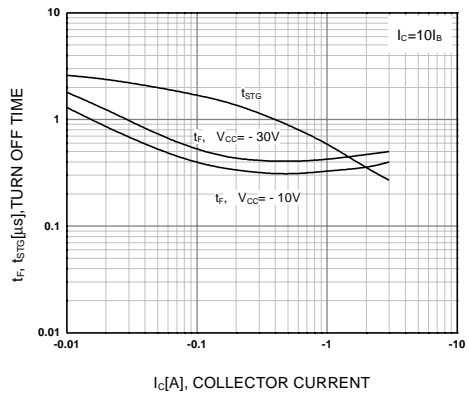


Figure 3. Turn Off Time

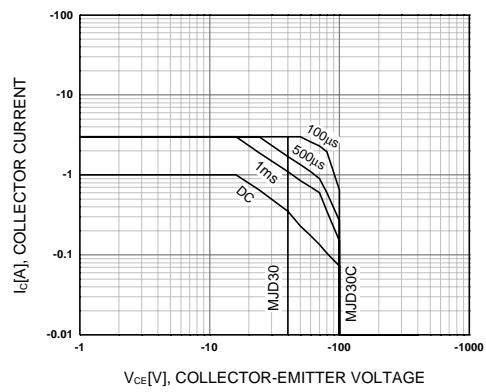


Figure 4. Safe Operating Area

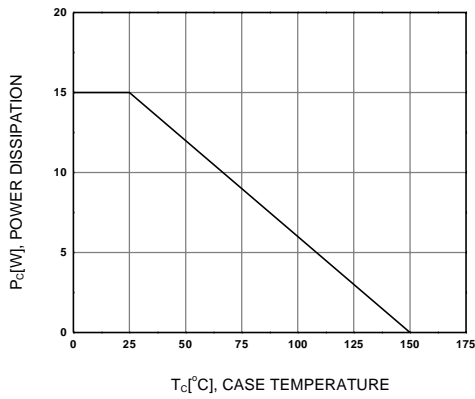
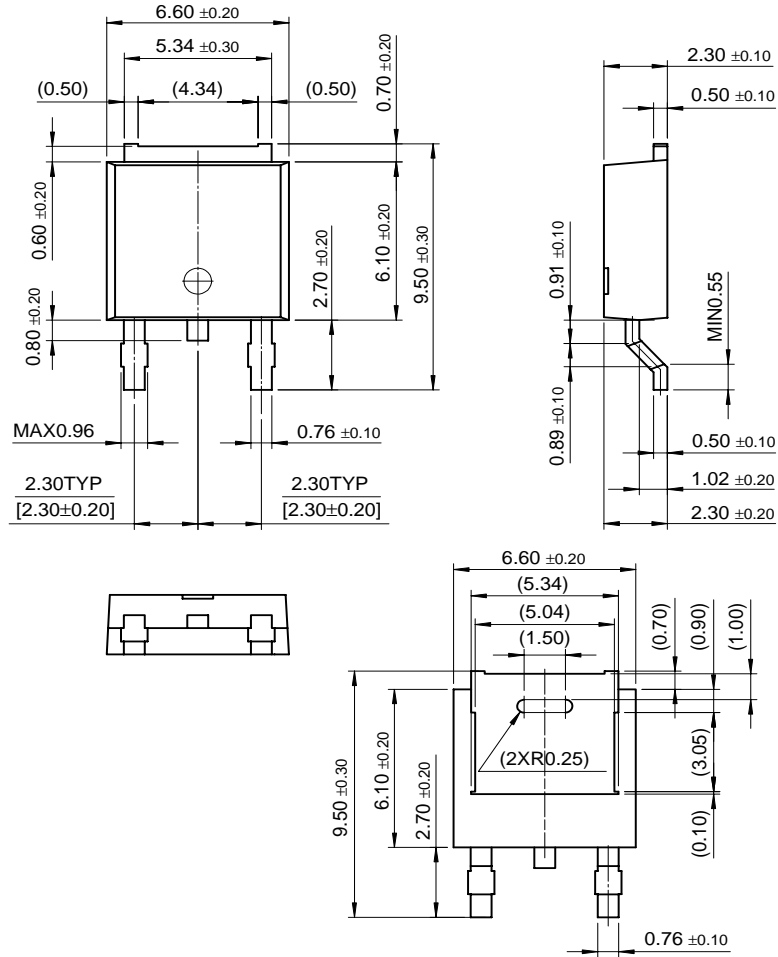


Figure 5. Power Derating

Package Dimensions

D-PAK



Dimensions in Millimeters

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