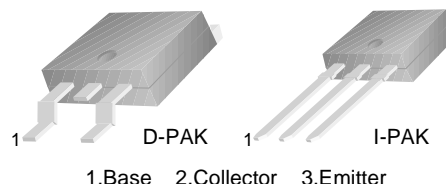


MJD200

D-PAK for Surface Mount Applications

- High DC Current Gain
- Built-in a Damper Diode at E-C
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I-PAK, " - I " Suffix)



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	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	8	V
I_B	Base Current	1	A
I_C	Collector Current (DC)	5	A
I_{CP}	Collector Current (Pulse)	10	A
P_C	Collector Dissipation ($T_C = 25^\circ\text{C}$)	12.5	W
	Collector Dissipation ($T_a = 25^\circ\text{C}$)	1.4	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
$V_{CBO(sus)}$	* Collector Emitter Sustaining Voltage	$I_C=100\text{mA}, I_B=0$	25		V
I_{CEO}	Collector Cut-off Current	$V_{CB}=40\text{V}, I_E=0$		100	nA
I_{CBO}	Collector Cut-off Current	$V_{EBO}=8\text{V}, I_C=0$		100	nA
I_{EBO}	Emitter Cut-off Current	$V_{CE}=1\text{V}, I_C=500\text{mA}$	70		
h_{FE}	* DC Current Gain	$V_{CE}=1\text{V}, I_C=2\text{A}$ $V_{CE}=2\text{V}, I_C=5\text{A}$	45 10	180	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C=500\text{mA}, I_B=50\text{mA}$		0.3	V
		$I_C=2\text{A}, I_B=200\text{mA}$		0.75	V
		$I_C=5\text{A}, I_B=1\text{A}$		1.8	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C=5\text{A}, I_B=2\text{A}$		2.5	V
$V_{BE(on)}$	* Base-Emitter ON Voltage	$V_{CE}=1\text{V}, I_C=2\text{A}$		1.6	V
f_T	Current Gain Bandwidth Product	$V_{CE}=10\text{V}, I_C=100\text{mA}$	65		MHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$		80	pF

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

Typical Characteristics

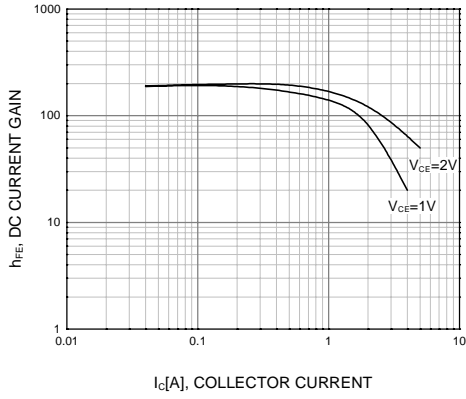


Figure 1. DC current Gain

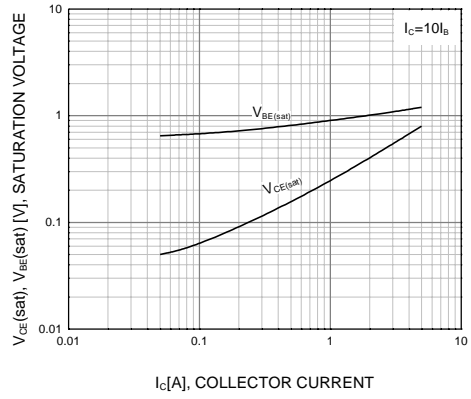


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

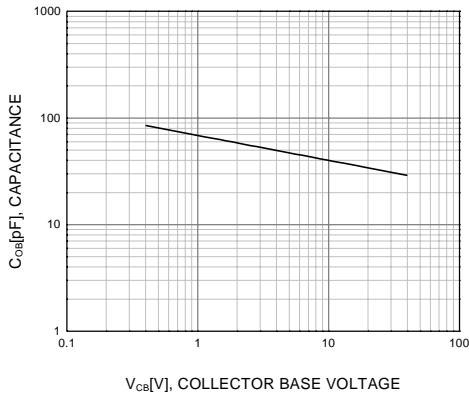


Figure 3. Collector Output Capacitance

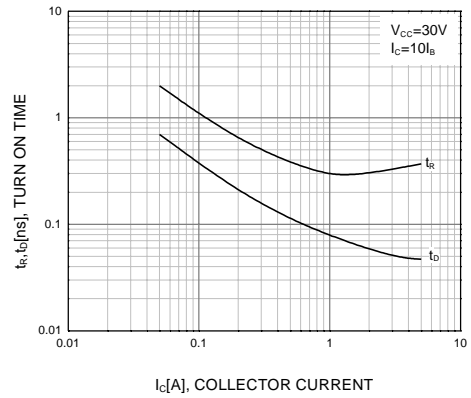


Figure 4. Turn On Time

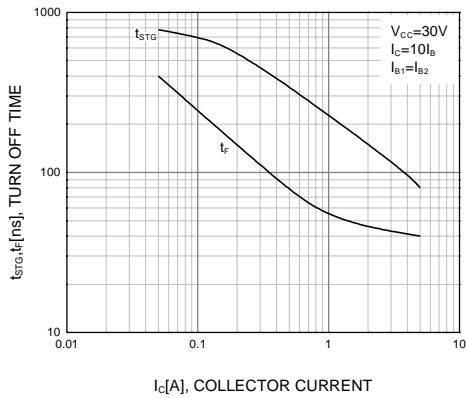


Figure 5. Turn Off Time

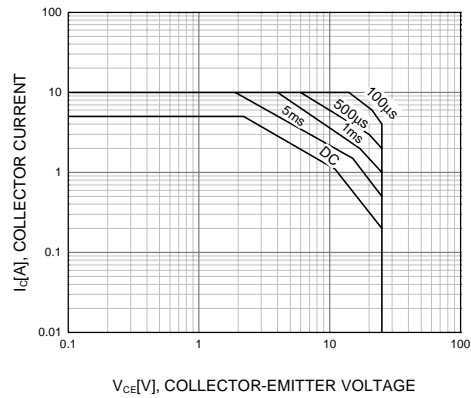


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

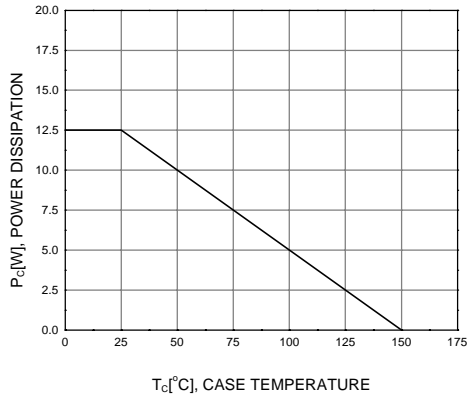
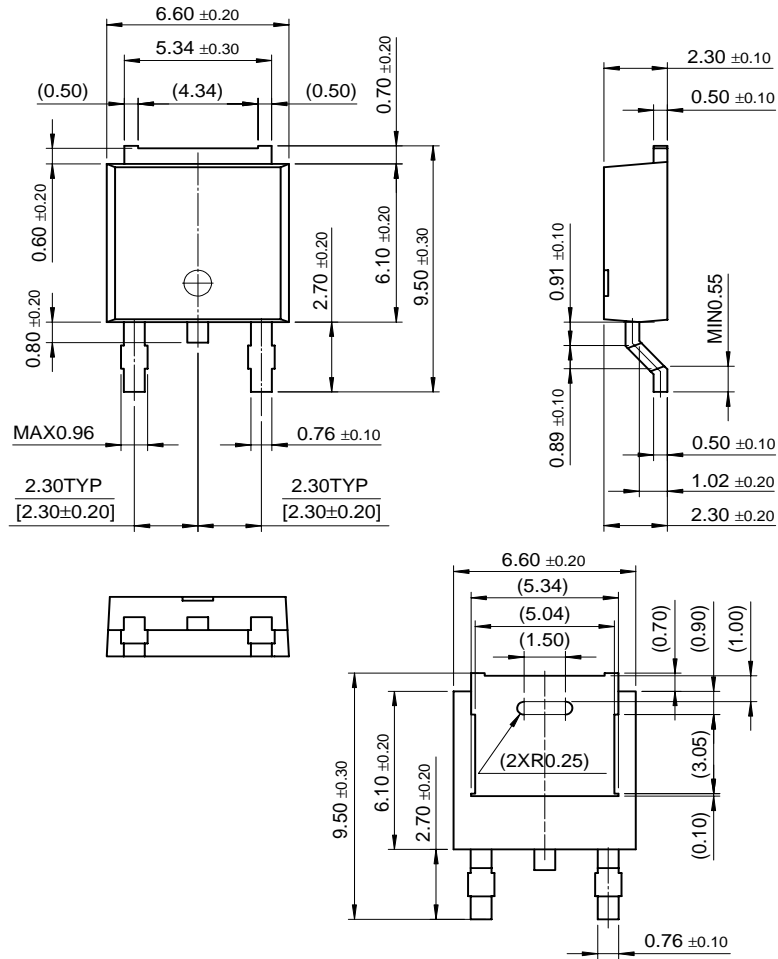


Figure 7. Power Derating

Package Dimensions

MJD200

D-PAK



Dimensions in Millimeters

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