

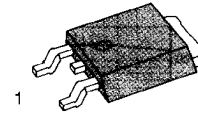
**GENERAL PURPOSE AMPLIFIER
LOW SPEED SWITCHING APPLICATIONS
DPAK FOR SURFACE MOUNT
APPLICATIONS**

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

ABSOLUTE MAXIMUM RATINGS

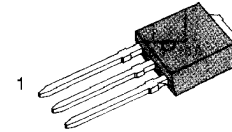
Characteristic	Symbol	Rating	Unit
Collector Base Voltage : MJD31 : MJD31C	CBO	100	V
Collector-Base Voltage : MJD31C	CEO	100	V
Collector Current (DC)	EBO C	3	A
Base Current	C B	1	A
Power Dissipation C °) A °)	P C	1.56	W
Storage Temperature	J STG	-65 ~ 150	C

D-PAK



1. Base 2. Collector 3. Emitter

I-PAK



1. Base 2. Collector 3. Emitter

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$)

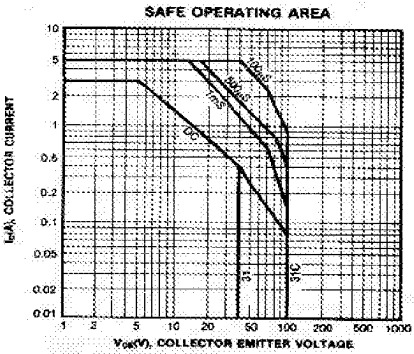
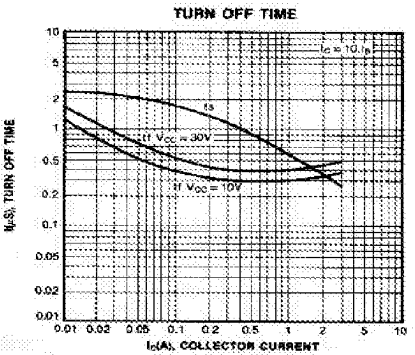
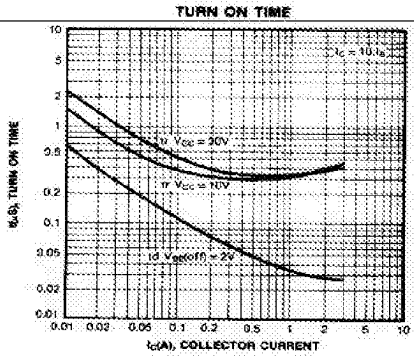
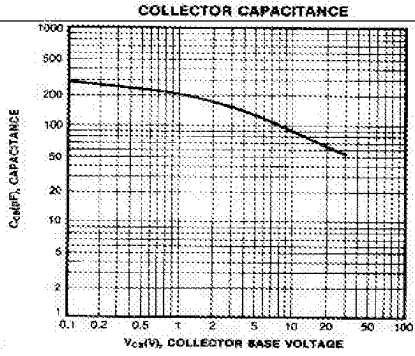
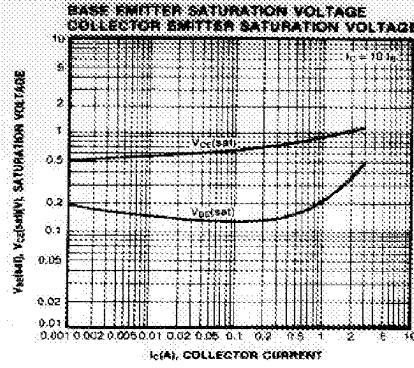
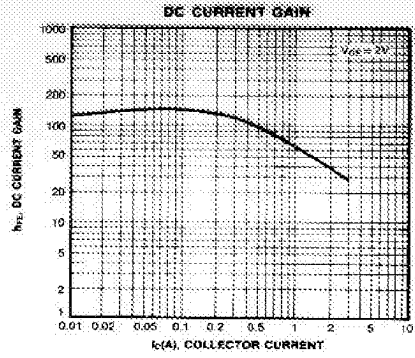
Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage : MJD31 : MJD31C	V_{CE0} (sus)	$I_C = 30\text{mA}$, $I_B = 0$	40 100		V V
Collector Cutoff Current : MJD31 : MJD31C	I_{CEO}	$V_{CE} = 40\text{V}$, $I_B = 0$ $V_{CE} = 60\text{V}$, $I_B = 0$		50 50	μA μA
Collector Cutoff Current : MJD31 : MJD31C	I_{CES}	$V_{CE} = 40\text{V}$, $V_{BE} = 0$ $V_{CE} = 100\text{V}$, $V_{BE} = 0$		20 20	μA μA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 5\text{V}$, $I_C = 0$		1	mA
* DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}$, $I_C = 1\text{A}$ $V_{CE} = 4\text{V}$, $I_C = 3\text{A}$	25 10		
* Collector Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = 3\text{A}$, $I_B = 375\text{mA}$		1.2	V
* Base Emitter On Voltage	$V_{BE}(\text{on})$	$V_{CE} = 4\text{V}$, $I_C = 3\text{A}$		1.8	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 500\text{mA}$ $f = 1\text{MHz}$	3		MHz

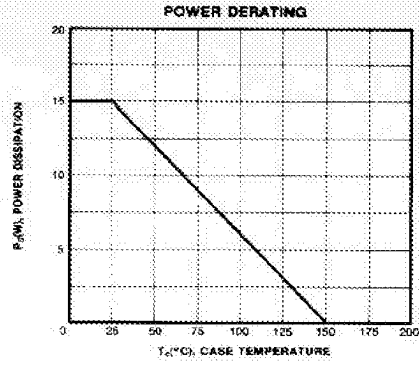
* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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