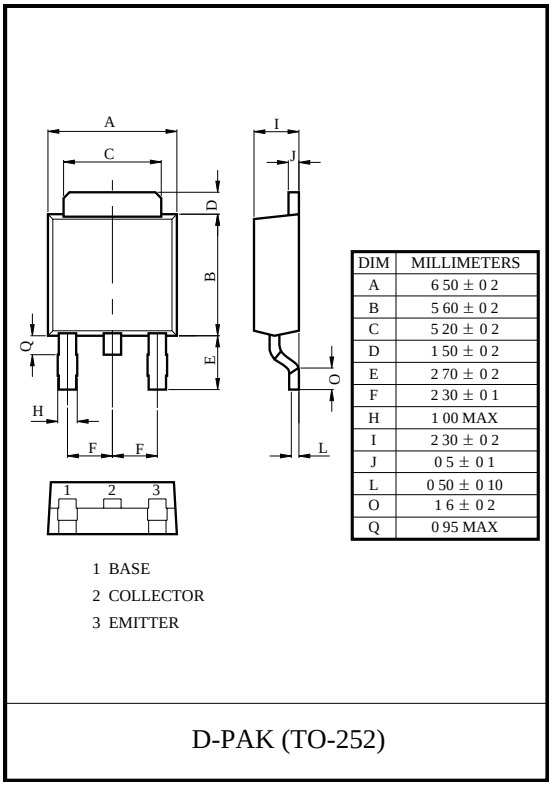
MJD31C TRANSISTOR (NPN)



DIM	MILLIMETERS
A	6 50 ± 0 2
B	5 60 ± 0 2
C	5 20 ± 0 2
D	1 50 ± 0 2
E	2 70 ± 0 2
F	2 30 ± 0 1
H	1 00 MAX
I	2 30 ± 0 2
J	0 5 ± 0 1
L	0 50 ± 0 10
O	1 6 ± 0 2
Q	0 95 MAX

D-PAK (TO-252)

FEATURES

- Designed for General Purpose Amplifier and Low Speed Switching Applications.
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Straight Lead Version in Plastic Sleeves ("–1" Suffix)
- Lead Formed Version in 16 mm Tape and Reel ("T4" Suffix)
- Electrically Similar to Popular TIP31 and TIP32 Series

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Max	Unit
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 -Continuous	3	A
P_C	Collector Power Dissipation	1.25	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-65-150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector- base breakdown voltage	$V_{(BR)CBO}$	I_C= 1mA, I_E=0	100		V
Collector- emitter breakdown voltage *	$V_{CEO(sus)}$	I_C= 30mA, I_B=0	100		V
Emitter- base breakdown voltage	$V_{(BR)EBO}$	I_E= 1mA, I_C=0	5		V
Collector cut- off current	I_{CES}	V_{CE}=100V, V_{EB}=0		20	μA
Collector cut- off current	I_{CEO}	V_{CE}= 60V, I_B= 0		50	μA
Emitter cut- off current	I_{EBO}	V_{EB}=5V, I_C=0		1	mA
DC current gain	$h_{FE(1)}$	V_{CE}= 4V, I_C= 1A	25		
	$h_{FE(2)}$	V_{CE}=4 V, I_C= 3A	15	75	
Collector- emitter saturation voltage	$V_{CE(sat)}$	I_C=3A, I_B=0.375A		1.2	V
Base- emitter voltage	$V_{BE(on)}$	V_{CE}= 4V, I_C=3A		1.8	V
Transition frequency	f_T	V_{CE}=10V , I_C=0.5A,f_T=1KHz	3		MH_Z

* Pulse Test: PW≤300μs, Duty Cycle≤2%.

Typical Characteristics

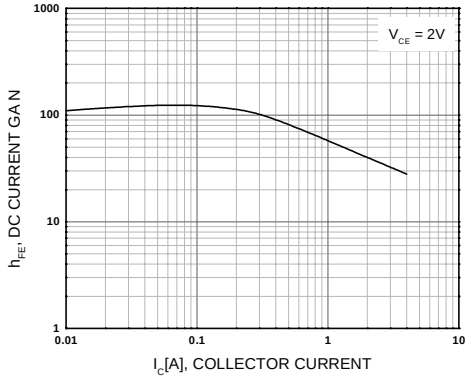


Figure 1. DC current Gain

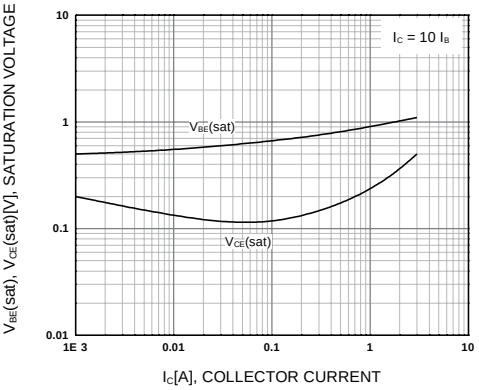


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

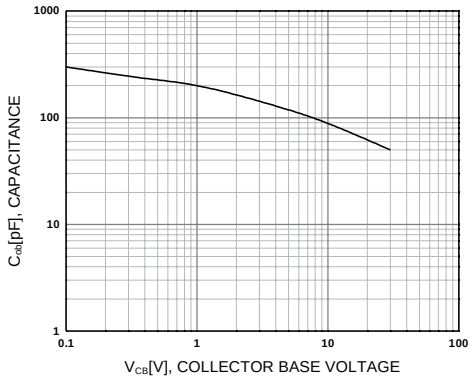


Figure 3. Collector Capacitance

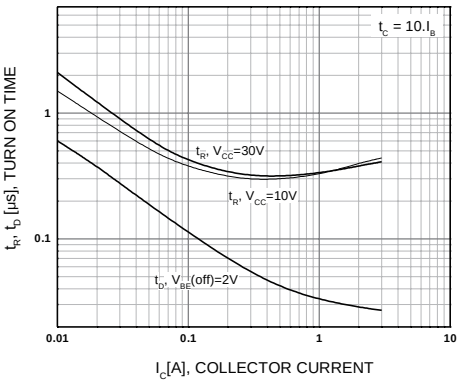


Figure 4. Turn On Time

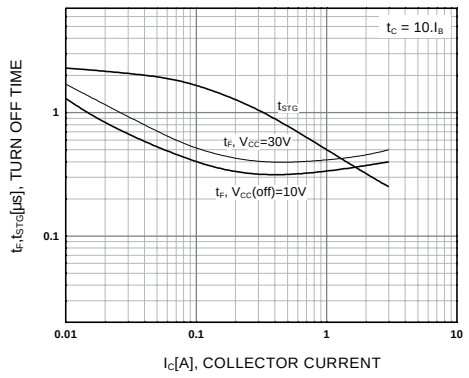


Figure 5. Turn Off Time

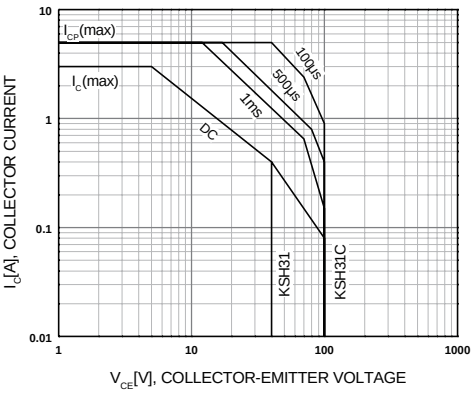


Figure 6. Safe Operating