MJD41C TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

TO-252

FEATURES

- Designed for General Purpose Amplifier and Low Speed S witching 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 TIP41 and TIP42 Series
- Monolithic Construction With Built–in Base–Emitter Resistors

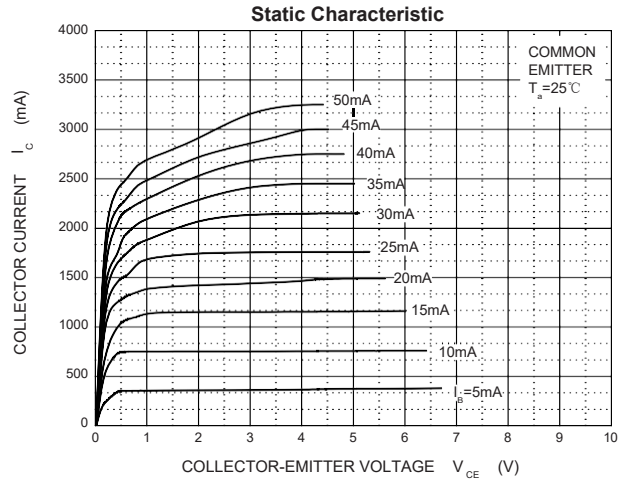
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

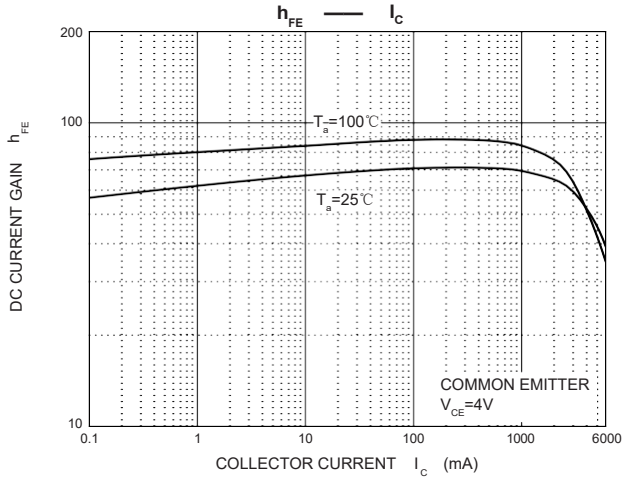
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	6	A
I_{CP}*	Collector Current -Pluse	10	A
P_C	Collector Power Dissipation	1.25	W
T_J,T_{stg}	Operating Junction and Storage Temperature Range	-55-150	℃

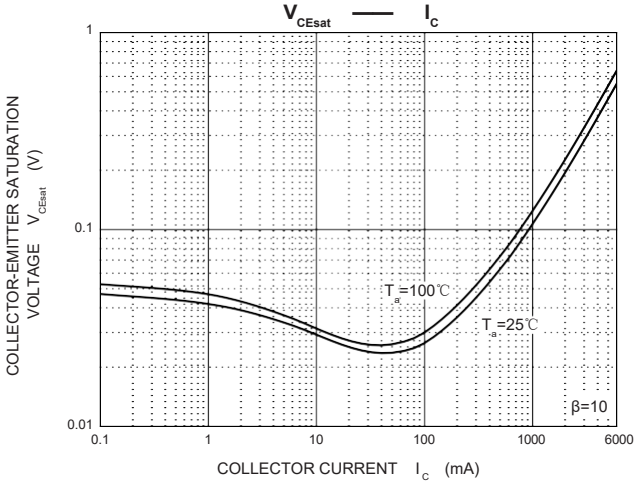
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

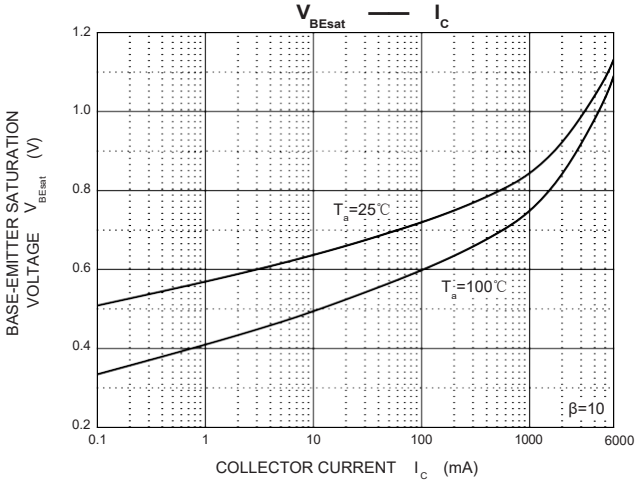
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	100			V
Collector-emitter breakdown voltage	$V_{CEO(sus)}$	I_C=30mA,I_B=0	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5			V
Collector cut-off current	I_{CEO}	V_{CB}=60V,I_E=0			50	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V I_C=0			0.5	mA
DC current gain	$h_{FE(1)}$	V_{CE}=4V I_C=0.3A	30			
	$h_{FE(2)}$	V_{CE}=4V,I_C=3A	15		75	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=6A,I_B=0.6A			1.5	V
Base-emitter voltage	V_{BE}	V_{CE}=4V,I_C=6A			2	V
Transition frequency	f_T	V_{CE}=10V,I_C=500mA,f=1MHz	3			MHz

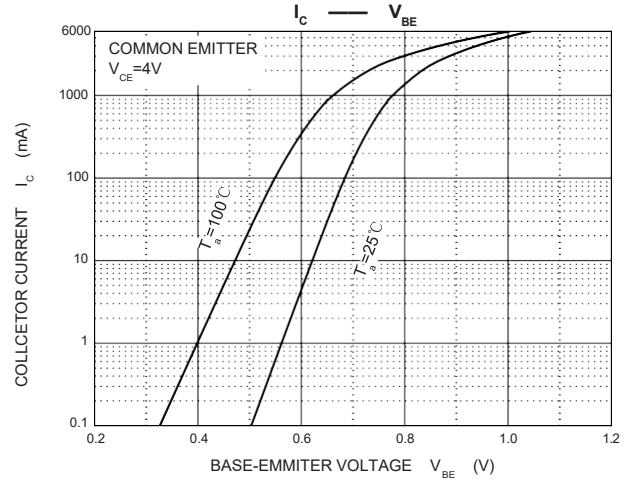
* Pulse Test: PW≤300μs, Duty Cycle≤2%

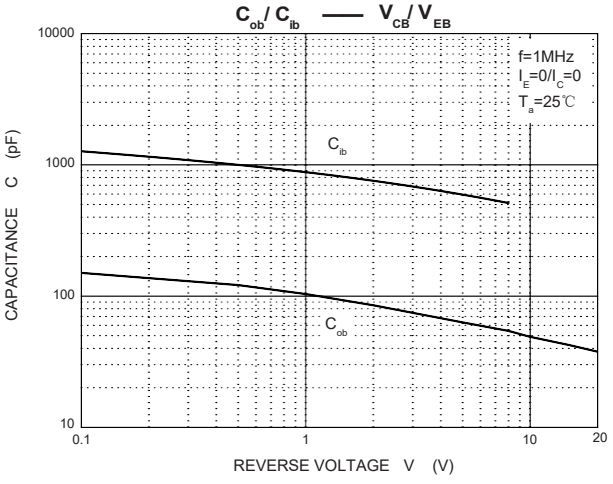

Static Characteristic
COMMON EMITTER
T_a=25℃
50mA
45mA
40mA
35mA
30mA
25mA
20mA
15mA
10mA
I_B=5mA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

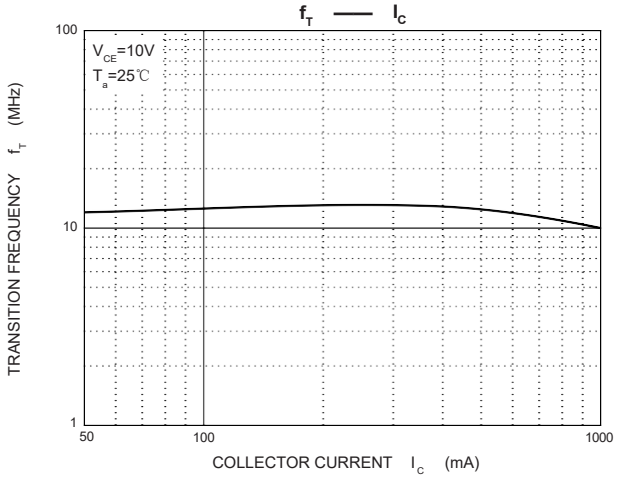

h_{FE} — I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}=4V
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

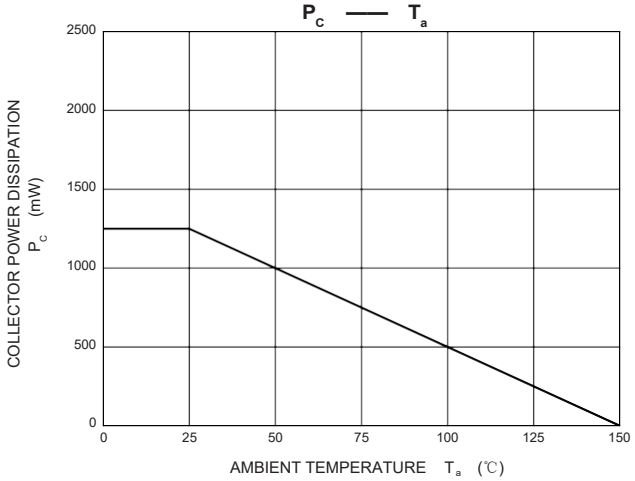

V_{CEsat} — I_C
T_a=100℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (V)
COLLECTOR CURRENT I_C (mA)


V_{BEsat} — I_C
T_a=25℃
T_a=100℃
β=10
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (V)
COLLECTOR CURRENT I_C (mA)


I_C — V_{BE}
COMMON EMITTER
V_{CE}=4V
T_a=100℃
T_a=25℃
COLLCETOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (V)


C_{ob}/ C_{ib} — V_{CB}/ V_{EB}
f=1MHz
I_E=0/I_C=0
T_a=25℃
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


f_T — I_C
V_{CE}=10V
T_a=25℃
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)