

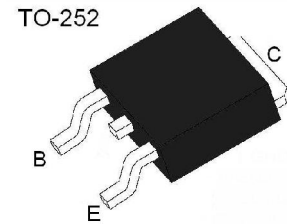
TO-252 Plastic-Encapsulate Transistors (NPN)

Feature

- Electrically similar to popular TIP41C
- The complementary PNP types are MJD42C
- Marking: MJD41C

Application

- Low Speed Switching



Absolute Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Value	Unit
Collector-Base Voltage		BV_{CBO}	100	V
Collector-Emitter Voltage		BV_{CEO}	100	V
Emitter-Base Voltage		BV_{EBO}	5	V
Collector Current		I_C	6	A
Collector Current Pulse		I_{CP}	10	A
Collector Power Dissipation	$T_A=25^{\circ}\text{C}$	P_C	1.75	W
	$T_C=25^{\circ}\text{C}$		20	
Junction Temperature		T_J	150	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	$-55 \sim 150$	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

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

* Pulse test: $PW \leq 300\mu\text{s}$, duty cycle $\leq 2\%$ Pulse



Typical Characteristics

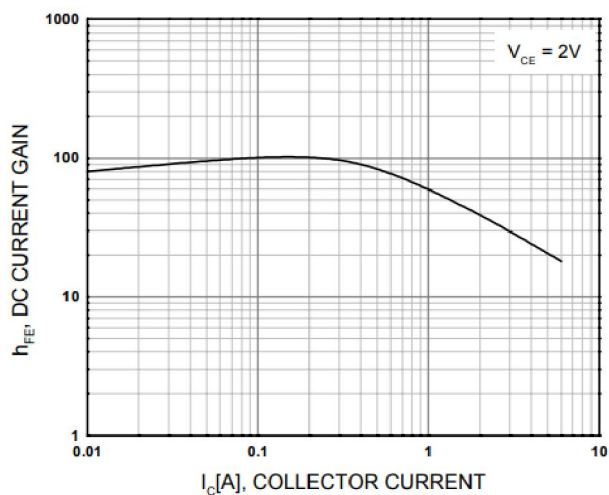


Figure 1. DC current Gain

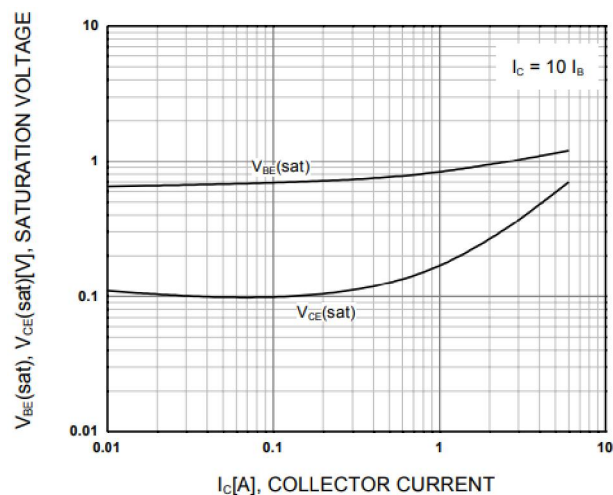


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

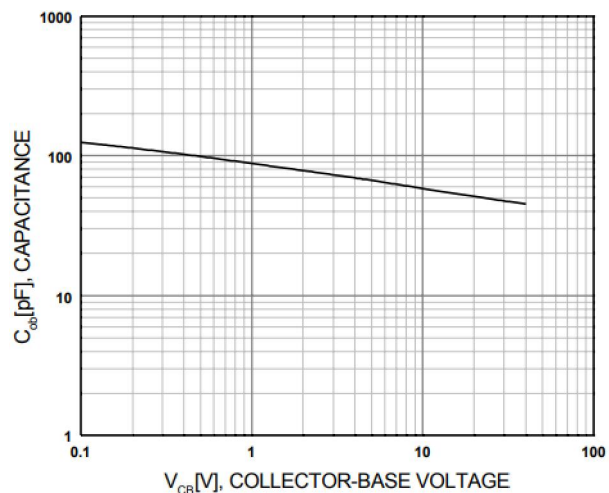


Figure 3. Collector Output Capacitance

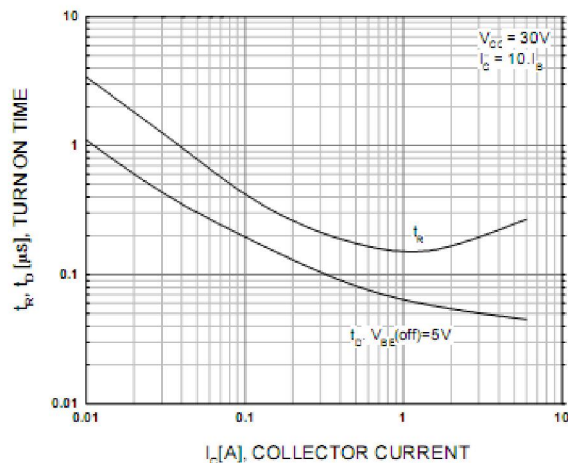


Figure 4. Turn On Time

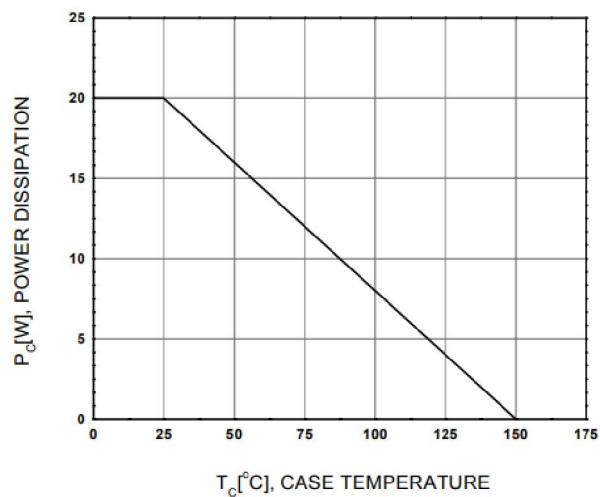


Figure 5. Power Derating

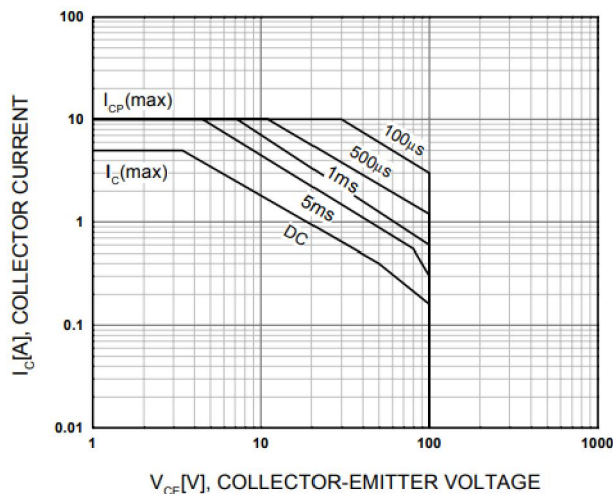
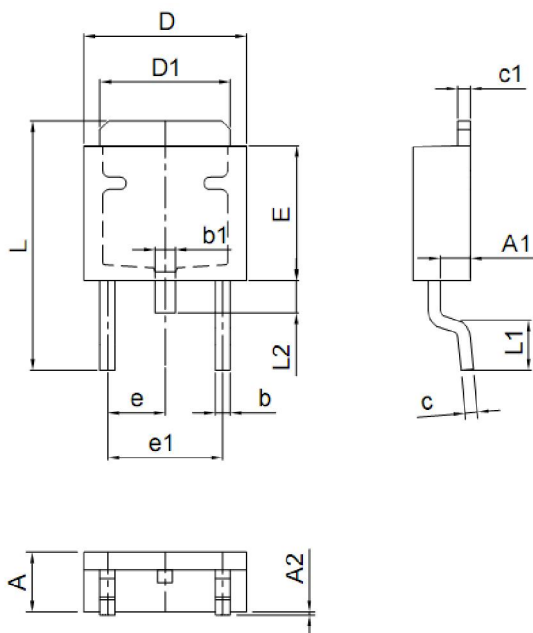


Figure 6. Safe Operating Area



Package Dimensions



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.094
A1	1.00	1.40	0.039	0.055
A2	0.00	0.15	0.000	0.006
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.20	6.70	0.244	0.264
D1	5.10	5.50	0.201	0.217
E	5.50	6.00	0.217	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.70	10.40	0.382	0.409
L1	1.40	1.70	0.055	0.063
L2	0.60	1.20	0.024	0.047