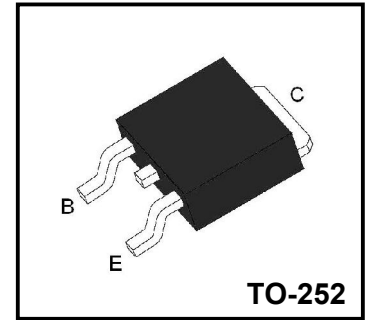


NPN Plastic-Encapsulate Transistors

General Purpose Amplifier

Low Speed Switching Applications

- ◆ Electrically Similar to Popular TIP41C
- ◆ The complementary PNP types are MJD42C.



Absolute Maximum Rating ($T_C=25^{\circ}\text{C}$ 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	2	A
Collector Power Dissipation	P_C	1.5	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55~150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
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}	$V_{CE}=2\text{V}, I_C=0.15\text{A}$ $V_{CE}=2\text{V}, I_C=1\text{A}$	100 80			
* Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$			0.6	V
* Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$			1.3	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_B = 0.25\text{A}$	5			MHz

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

Typical Characteristics

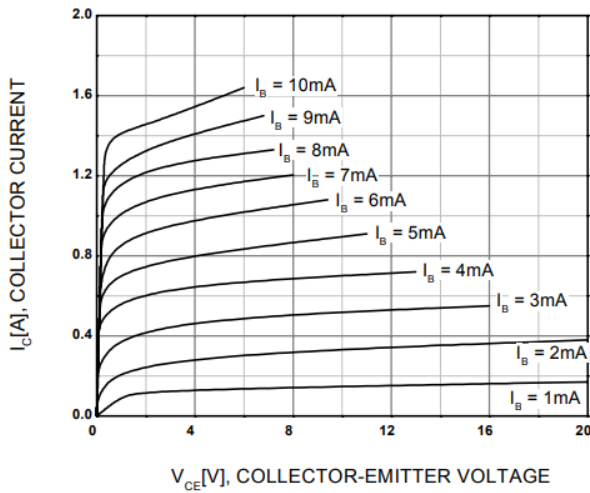


Figure 1. Static Characteristic

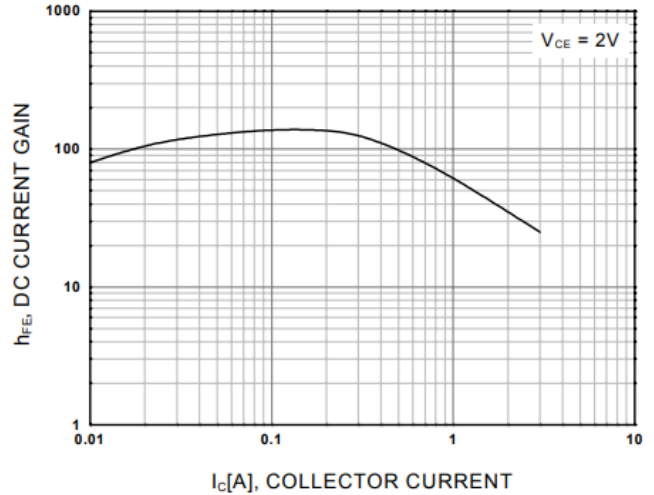


Figure 2. DC current Gain

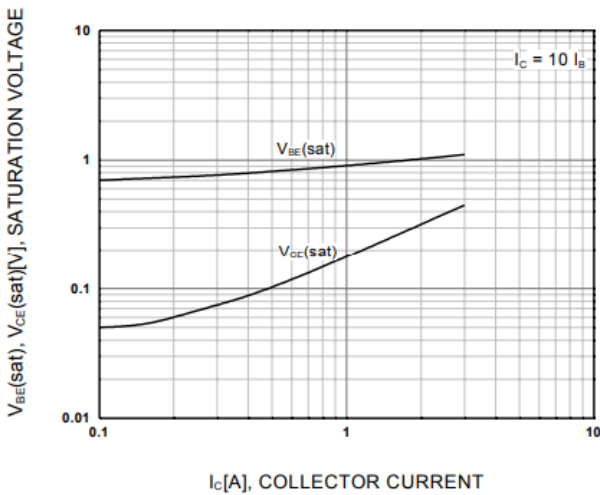


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

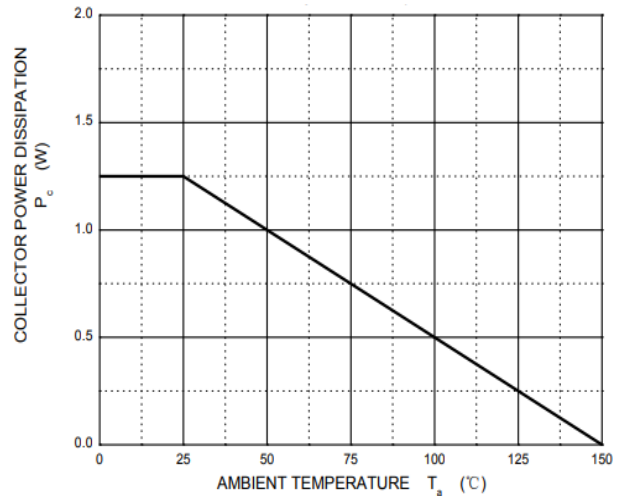


Figure 4. Power Derating

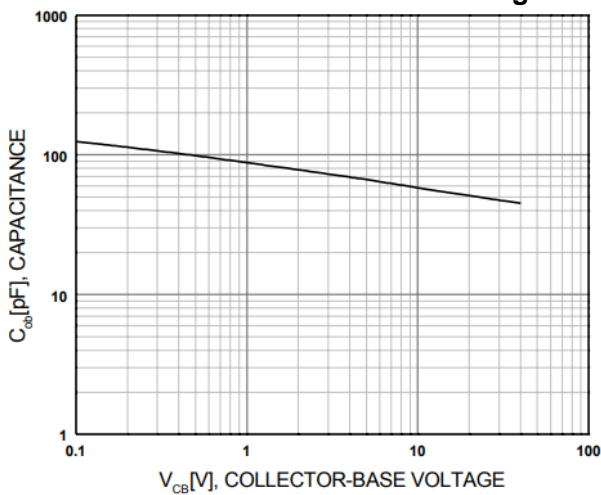


Figure 5. Collector Output Capacitance

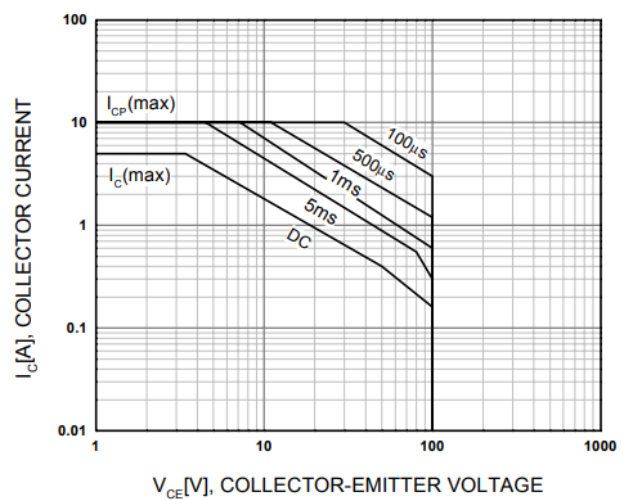
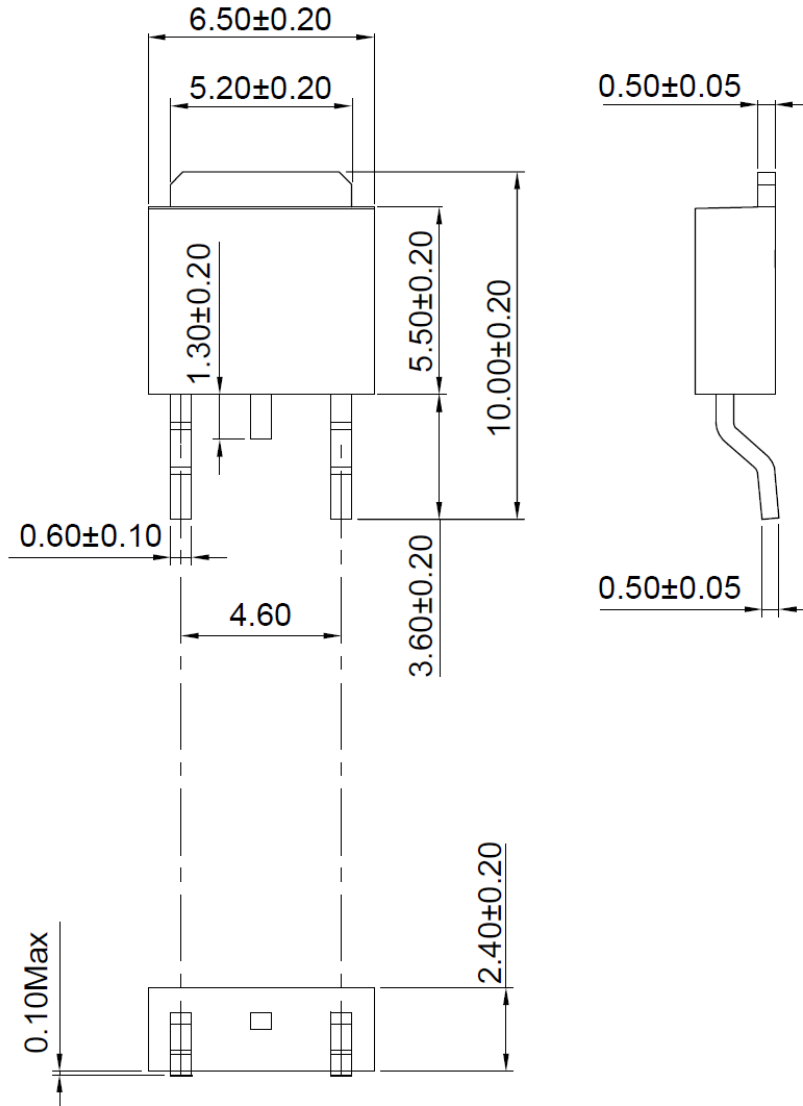


Figure 6. Safe Operating Area

Package Dimensions

TO-252

(Unit:mm)



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
TO-252(D-PAK)	Tape/Reel,13"reel	2500	EIA-481-1