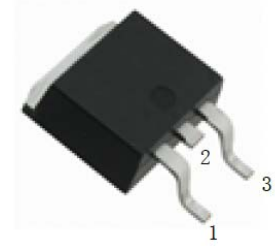


TIP31CR

NPN Silicon Epitaxial Planar Transistor

for power switching and amplifier applications



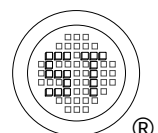
1.Base 2. Collector 3. Emitter
TO-252 Plastic Package

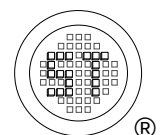
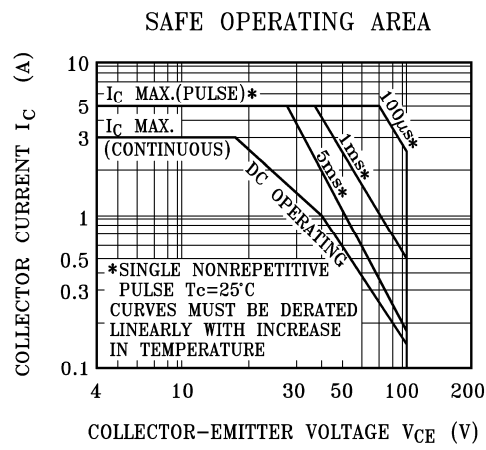
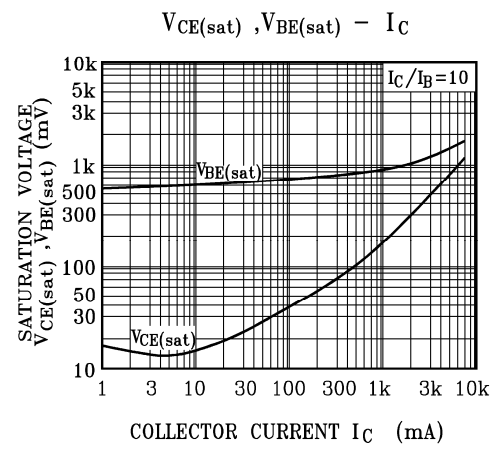
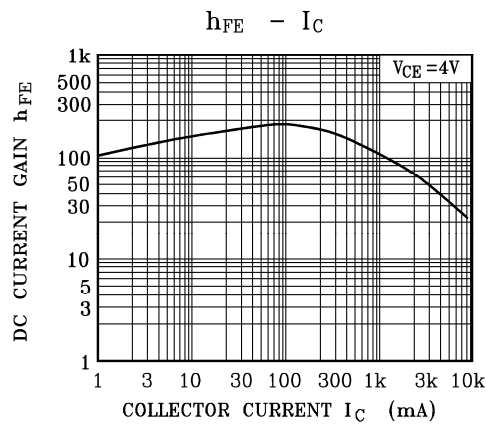
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Collector Current (Pulse)	I_{CP}	5	A
Base Current	I_B	1	A
Power Dissipation ($T_a = 25^\circ\text{C}$)	P_{tot}	1	W
Power Dissipation ($T_c = 25^\circ\text{C}$)	P_{tot}	20	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

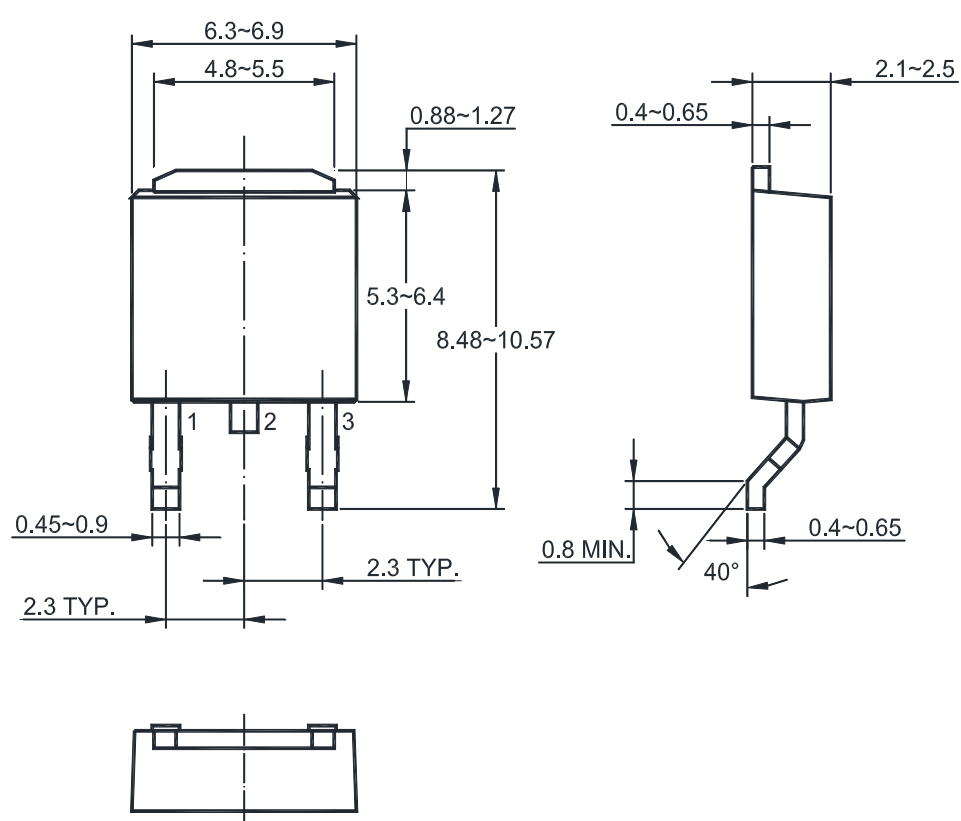
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 4\text{ V}$, $I_C = 1\text{ A}$	h_{FE}	25	-	-
at $V_{CE} = 4\text{ V}$, $I_C = 3\text{ A}$	h_{FE}	10	50	-
Collector Emitter Sustaining Voltage at $I_C = 30\text{ mA}$	$V_{CEO(sus)}$	100	-	V
Collector Cutoff Current at $V_{CE} = 100\text{ V}$	I_{CES}	-	0.2	mA
Collector Cutoff Current at $V_{CE} = 60\text{ V}$	I_{CEO}	-	0.3	mA
Emitter Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	1	mA
Collector Emitter Saturation Voltage at $I_C = 3\text{ A}$, $I_B = 375\text{ mA}$	$V_{CE(sat)}$	-	1.2	V
Base Emitter On Voltage at $V_{CE} = 4\text{ V}$, $I_C = 3\text{ A}$	$V_{BE(on)}$	-	1.8	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 500\text{ mA}$, $f = 1\text{ MHz}$	f_T	3	-	MHz





Package Outline (Dimensions in mm)

TO-252



Recommended Soldering Footprint

