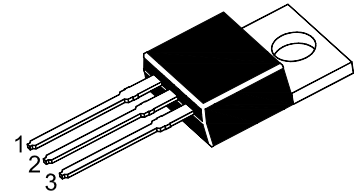


# ST TIP42C

## PNP Silicon Epitaxial Planar Transistor

for power switching and amplifier applications



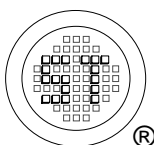
1.Base 2.Collector 3.Emitter  
TO-220 Plastic Package

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

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	$-I_C$	6	A
Collector Current (Pulse)	$-I_{CP}$	10	A
Base Current	$-I_B$	2	A
Power Dissipation ( $T_a = 25\text{ }^\circ\text{C}$ )	$P_{tot}$	2	W
Power Dissipation ( $T_c = 25\text{ }^\circ\text{C}$ )	$P_{tot}$	65	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 4\text{ V}$ , $-I_C = 0.3\text{ A}$	$h_{FE}$	30	-	-
at $-V_{CE} = 4\text{ V}$ , $-I_C = 3\text{ A}$	$h_{FE}$	15	75	-
Collector Emitter Cutoff Current at $-V_{CE} = 100\text{ V}$	$-I_{CES}$	-	0.4	mA
Collector Emitter Cutoff Current at $-V_{CE} = 60\text{ V}$	$-I_{CEO}$	-	0.7	mA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	1	mA
Collector Emitter Breakdown Voltage at $-I_C = 30\text{ mA}$	$-V_{(BR)CEO}$	100	-	V
Collector Emitter Saturation Voltage at $-I_C = 6\text{ A}$ , $-I_B = 600\text{ mA}$	$-V_{CE(sat)}$	-	1.5	V
Base Emitter On Voltage at $-V_{CE} = 4\text{ V}$ , $-I_C = 6\text{ A}$	$-V_{BE(on)}$	-	2	V
Transition Frequency at $-V_{CE} = 10\text{ V}$ , $-I_C = 500\text{ mA}$ , $f = 1\text{ MHz}$	$f_T$	3	-	MHz



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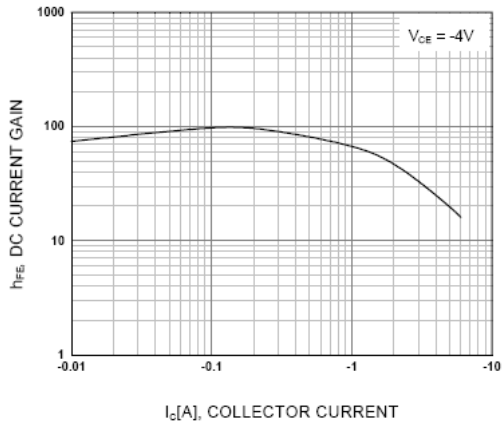


Figure 1. DC current Gain

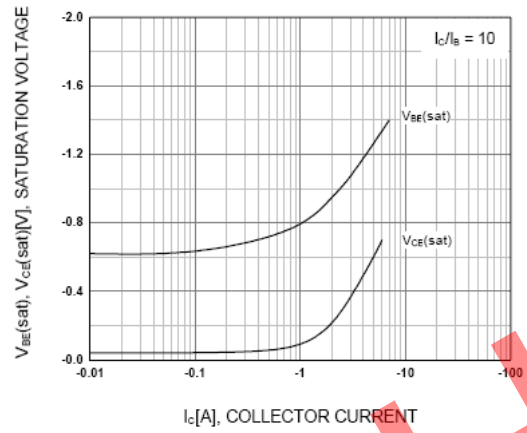


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

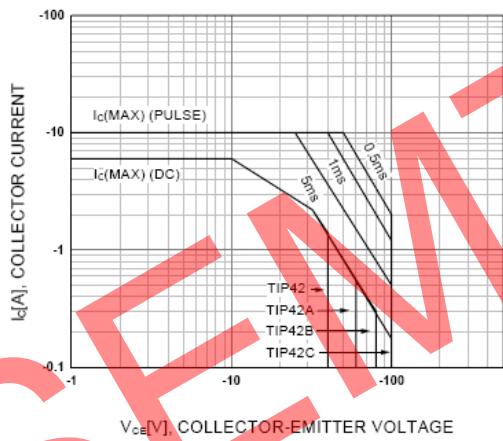


Figure 3. Safe Operating Area

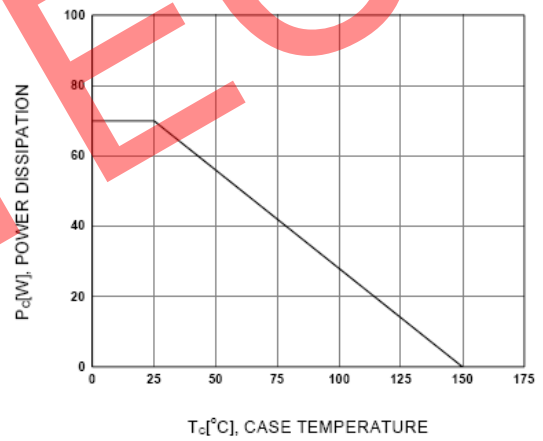
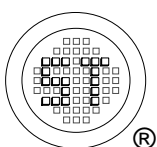
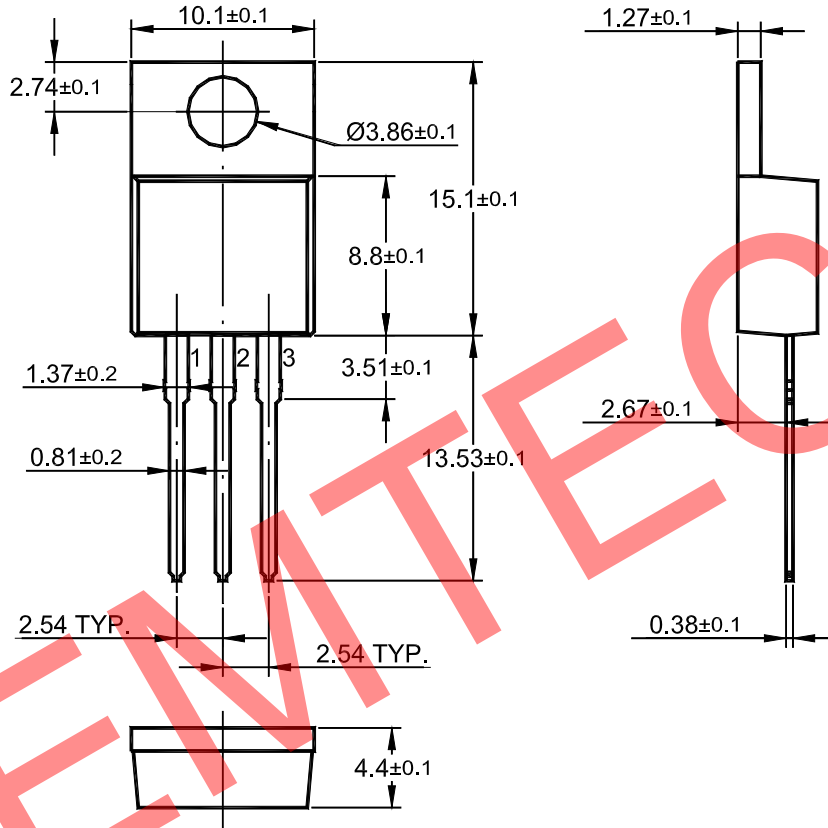


Figure 4. Power derating

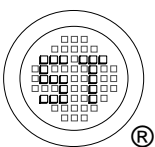


# ST TIP42C

## TO-220 Package Outline



Dimensions in mm



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Dated : 22/04/2010 Rev:01