

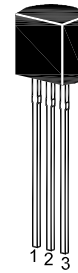
# 2SC1213 / 2SC1213A

## NPN Silicon Epitaxial Planar Transistor

Low frequency amplifier applications.

The transistor is subdivided into three groups, B, C and D, according to its DC current gain. As complementary type the PNP transistor 2SA673 and 2SA673A are recommended.

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Collector 3. Base  
TO-92 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	2SC1213 35	V
2SC1213A 50			
Collector Emitter Voltage	$V_{CEO}$	2SC1213 35	V
2SC1213A 50			
Emitter Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	500	mA
Power Dissipation	$P_{tot}$	400	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit		
DC Current Gain at $V_{CE} = 3\text{ V}$ , $I_C = 10\text{ mA}$  at $V_{CE} = 3\text{ V}$ , $I_C = 500\text{ mA}$	Current Gain Group	B C D	$h_{FE}$	60	-	120	-
			$h_{FE}$	100	-	200	-
			$h_{FE}$	160	-	320	-
			$h_{FE}$	10	-	-	-
Collector Base Cutoff Current at $V_{CB} = 20\text{ V}$	$I_{CBO}$	-	-	0.5	$\mu\text{A}$		
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	2SC1213	35	-	-	V	
		2SC1213A	50	-	-	V	
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	2SC1213	35	-	-	V	
		2SC1213A	50	-	-	V	
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	4	-	-	V		
Collector Emitter Saturation Voltage at $I_C = 150\text{ mA}$ , $I_B = 15\text{ mA}$	$V_{CE(sat)}$	-	-	0.6	V		
Base Emitter Voltage at $V_{CE} = 3\text{ V}$ , $I_C = 10\text{ mA}$	$V_{BE}$	-	0.64	-	V		

