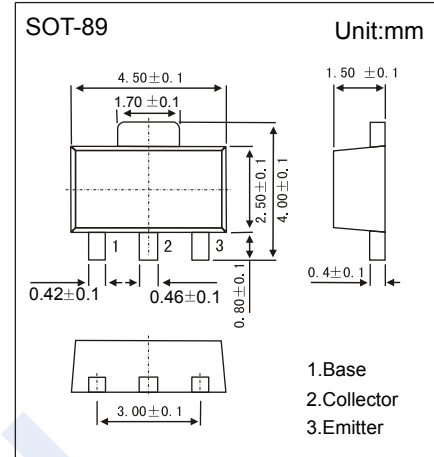


## NPN Transistors

## 2SD1421

## ■ Features

- Collector Current Capability  $I_C=1.5A$
- Collector Emitter Voltage  $V_{CE0}=160V$
- Low frequency power amplifier

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	180	V
Collector - Emitter Voltage	$V_{CE0}$	160	
Emitter - Base Voltage	$V_{EB0}$	5	
Collector Current - Continuous	$I_C$	1.5	A
Collector Current - Pulse (Note.1)	$I_{CP}$	3	
Collector Power Dissipation	$P_C$	1	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Note.1:  $P_w \leq 10$  ms, Duty cycle  $\leq 20\%$

■ Electrical Characteristics  $T_a = 25^\circ C$ 

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = 1$ mA, $I_E = 0$	180			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 10$ mA, $R_{BE} = \infty$	160			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 1$ mA, $I_C = 0$	5			
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = 160$ V, $I_E = 0$			10	$\mu A$
Emitter cut-off current	$I_{EB0}$	$V_{EB} = 5$ V, $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500$ mA, $I_B = 50$ mA			1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500$ mA, $I_B = 50$ mA			1.2	
Base to emitter voltage	$V_{BE}$	$V_{CE} = 5$ V, $I_C = 150$ mA			0.9	
DC current gain	$h_{FE(1)}$	$V_{CE} = 5$ V, $I_C = 150$ mA	60		200	
	$h_{FE(2)}$	$V_{CE} = 5$ V, $I_C = 500$ mA	30			
Collector output capacitance	$C_{ob}$	$V_{CB} = 5$ V, $I_E = 0$ , $f = 1$ MHz		40		$\mu F$
Transition frequency	$f_T$	$V_{CE} = 5$ V, $I_C = 200$ mA		170		MHz

■ Classification of  $h_{FE(1)}$ 

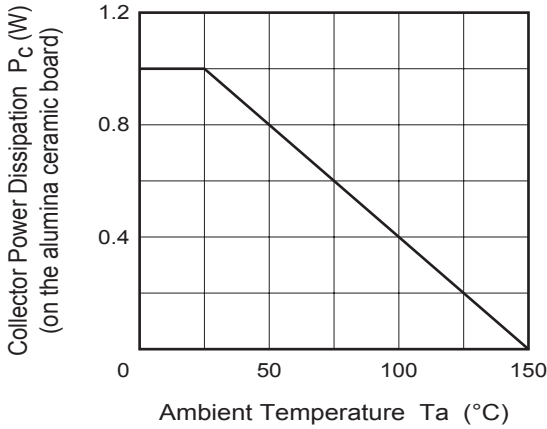
Type	2SD1421-D	2SD1421-E
Range	60-120	100-200
Marking	ED	EE

# NPN Transistors

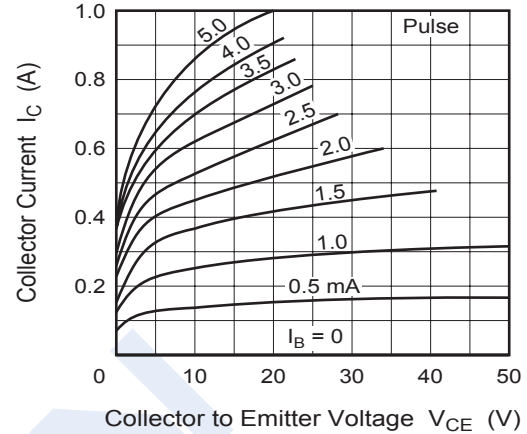
## 2SD1421

### ■ Typical Characteristics

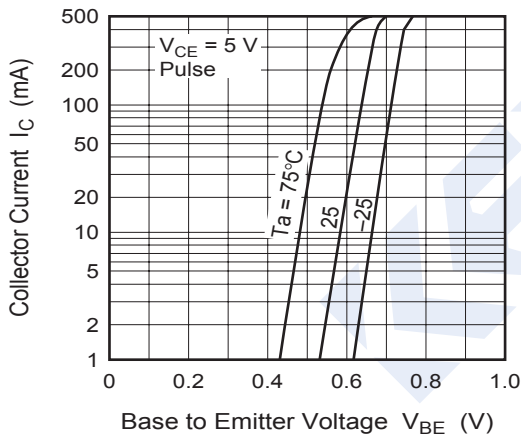
Maximum Collector Dissipation Curve



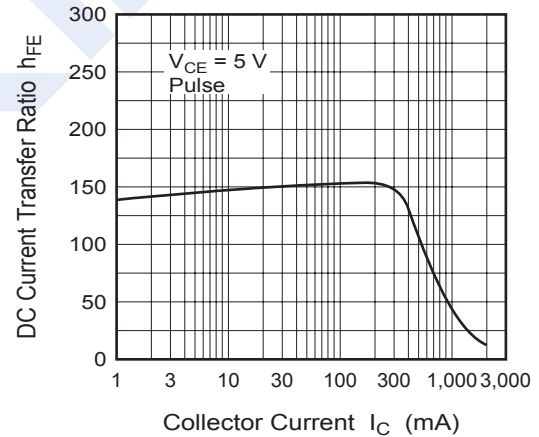
Typical Output Characteristics



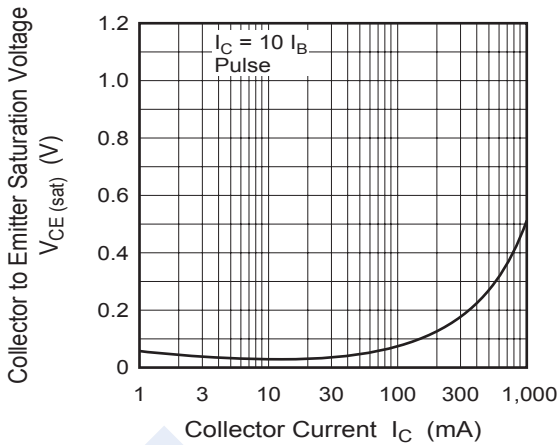
Typical Transfer Characteristics



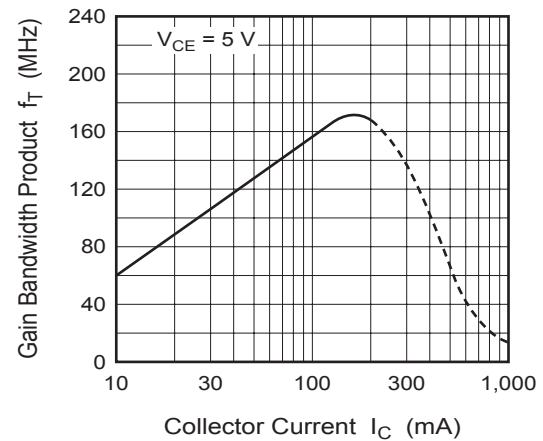
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



## NPN Transistors

## 2SD1421

## ■ Typical Characteristics

