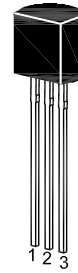


# 2SC2240

## NPN Silicon Epitaxial Planar Transistor

### Features

- The transistor is subdivided into two groups, G and L according to its DC current gain
- On special request, these transistors can be manufactured in different pin configurations



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

### Applications

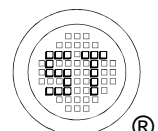
- For low noise audio amplifier

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CB0}$	120	V
Collector Emitter Voltage	$V_{CE0}$	120	V
Emitter Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_C$	100	mA
Base Current	$I_B$	20	mA
Power Dissipation	$P_{tot}$	625	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Thermal Characteristics

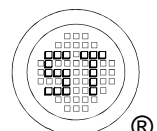
Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$



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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 6\text{ V}$ , $I_C = 2\text{ mA}$ Current Gain Group G L	$h_{FE}$	200	-	400	-
	$h_{FE}$	350	-	700	-
Collector Base Cutoff Current at $V_{CB} = 120\text{ V}$	$I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	$I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	120	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	120	-	-	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Transition Frequency at $V_{CE} = 6\text{ V}$ , $I_C = 1\text{ mA}$	$f_T$	-	100	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	6	pF



## Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

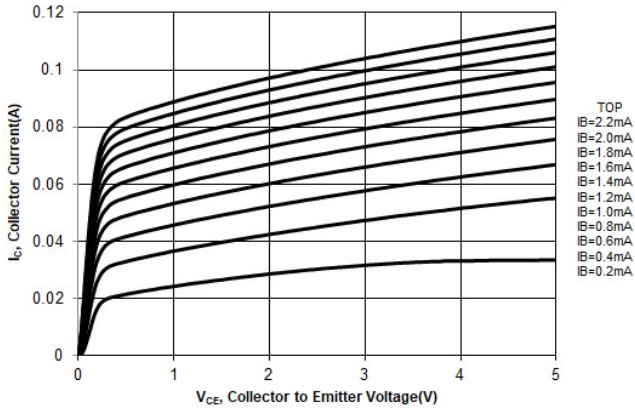


Fig. 2 Collector Current vs. Base to Emitter Voltage

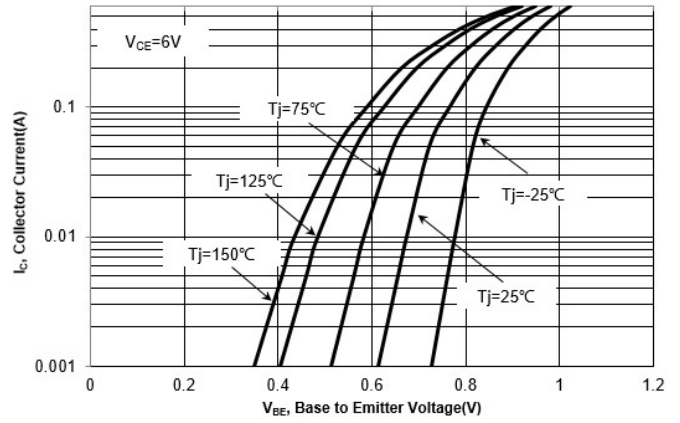


Fig. 3  $h_{FE,DC}$  Current Gain vs. Collector Current

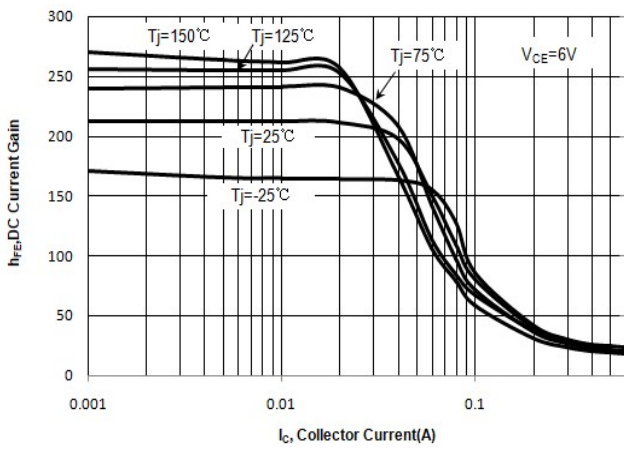
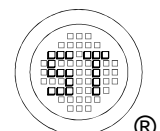
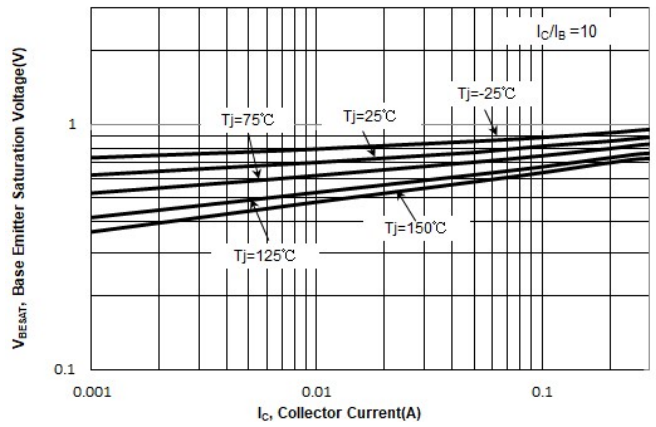


Fig. 4  $V_{BE(sat)}$  vs. Collector Current



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## Electrical Characteristics Curves

Fig. 5  $V_{CE(sat)}$  vs. Collector Current

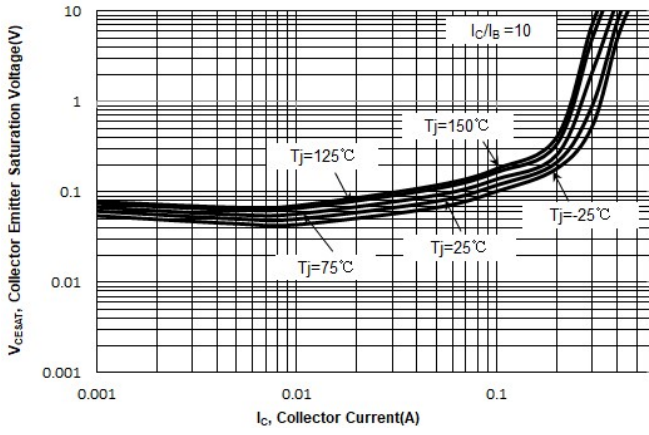


Fig. 6 Output Capacitance

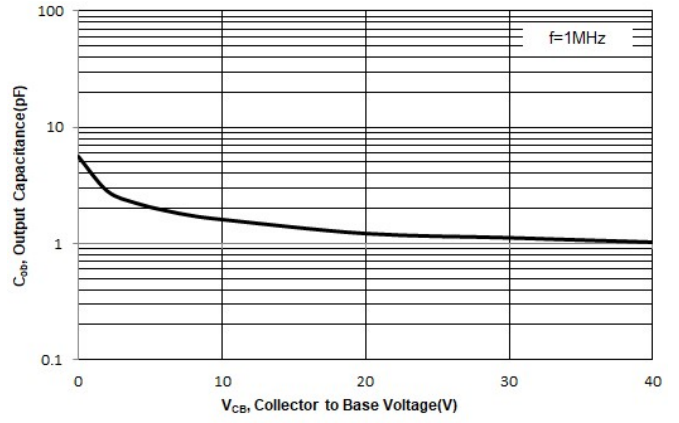


Fig. 7 Power Derating Curve

