

Electrical Characteristics

$T_C = 25^\circ\text{C}$ unless otherwise specified

Parameter	Conditions	Symbol	Limits		Units
			Min.	Max.	
2N3232 - 2N3234					
*Collector-cutoff current	$V_{CE} = \text{Max. Rating}^{\text{①}}, V_{BE} = -1.5\text{V}$	I_{CEV}	...	1	ma
*Collector-cutoff current	$V_{CE} = \text{Max. Rating}^{\text{①}}, V_{BE} = -1.5\text{V}, T_C = 150^\circ\text{C}$	I_{CEV}	...	5	ma
*Emitter-cutoff current	$V_{EB} = 6\text{V}, I_C = 0$	I_{EBO}	...	1	ma
*Collector-emitter sustaining voltage ^②	$I_C = 100\text{ mA}, I_B = 0$	$V_{CEO}(\text{sus})$	...	...	V
*Dc Forward-current transfer ratio ^③	$I_C = 3\text{A}, V_{CE} = 10\text{V}$	h_{FE}	18	55	..
*Collector-emitter saturation voltage	$I_C = 3\text{A}, I_B = 0.2\text{A}$	$V_{CE}(\text{sat})$	...	2.5	V
*Base-emitter voltage	$I_C = 3\text{A}, V_{CE} = 10\text{V}$	V_{BE}	...	3.5	V
*Small-signal forward current transfer ratio	$I_C = 3\text{A}, V_{CE} = 10\text{V}, f = 1\text{ KHz}$	h_{fe}	10	...	..
2N3235					
*Collector-cutoff current	$V_{CE} = 90\text{V}, V_{BE} = -1.5\text{V}$	I_{CEV}	...	5	ma
*Collector-cutoff current	$V_{CE} = 45\text{V}, V_{BE} = -1.5\text{V}, T_C = 150^\circ\text{C}$	I_{CEV}	...	5	ma
*Emitter-cutoff current	$V_{EB} = 7\text{V}, I_C = 0$	I_{EBO}	...	5	ma
*Collector-emitter sustaining voltage ^②	$I_C = 100\text{mA}, I_B = 0$	$V_{CEO}(\text{sus})$	55	...	V
*Dc Forward-current transfer ratio ^③	$I_C = 4\text{A}, V_{CE} = 4\text{V}$	h_{FE}	20	70	..
*Collector-emitter saturation voltage	$I_C = 4\text{A}, I_B = 0.4\text{A}$	$V_{CE}(\text{sat})$	...	1.1	V
*Base-emitter voltage	$I_C = 4\text{A}, V_{CE} = 4\text{V}$	V_{BE}	...	1.8	V
*Small-signal forward current transfer ratio	$I_C = 4\text{A}, V_{CE} = 4\text{V}, f = 1\text{ KHz}$	h_{fe}	10	...	..

* JEDEC registered parameters.

^① Pulse; pulse duration 300 μsec ; duty cycle $\leq 2\%$.

^② V_{CEO} (sus) and V_{CE} (max) for 2N3232, 60V; for 2N3233, 100V; for 2N3234, 160V.

Typical Characteristics, 2N3232-2N3234

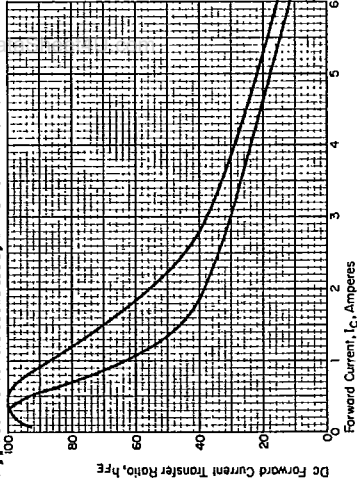


Figure 1. Dc forward current transfer ratio vs. collector current.

Typical Characteristics, 2N3235

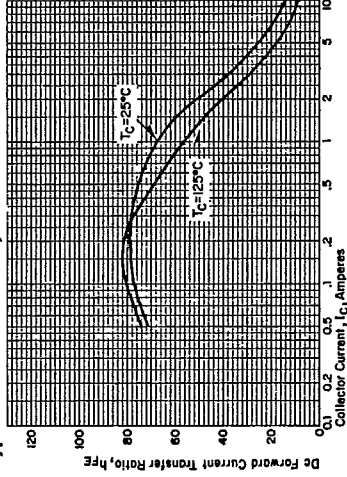


Figure 4. Dc forward current transfer ratio vs. collector current.

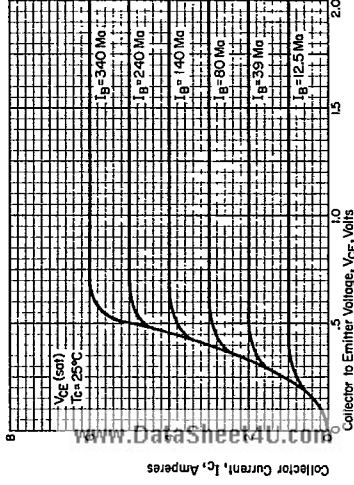


Figure 2. Output characteristics.

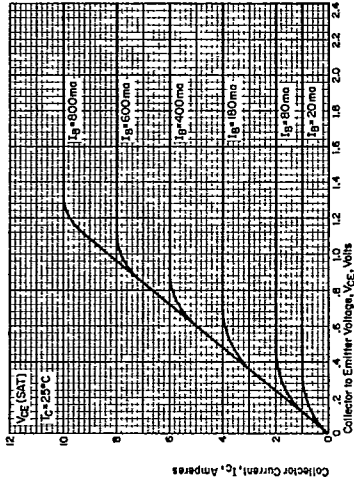


Figure 5. Output characteristics.

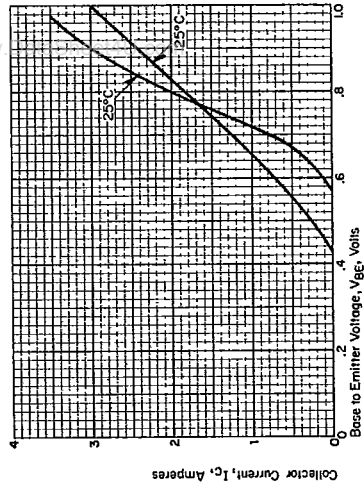


Figure 3. Transconductance characteristics.

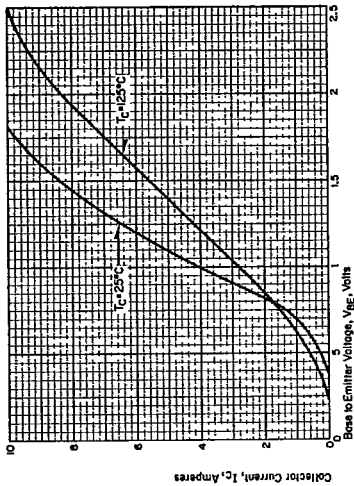


Figure 6. Transconductance characteristics.