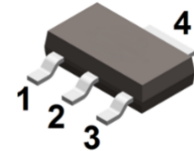
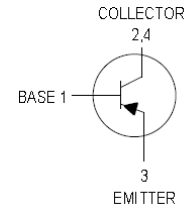




### Features

- Low Collector-Emitter saturation voltage  $V_{CE(sat)}$  and corresponding low  $R_{CE(sat)}$
- High collector current capability
- High collector current gain
- Improved efficiency due to reduced heat generation



**SOT-223**

### Mechanical Data

- Case: SOT-223
- Molding compound: UL flammability classification rating 94V-0
- Terminal s: Tin-plated; solderability per MIL-STD-202, Method 208

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
GT5350R	SOT-223	4000pcs / Tape & Reel	T5350

### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	$V_{CBO}$	-50	V
Collector-Emitter Breakdown Voltage	$V_{CEO}$	-50	V
Emitter-Base Breakdown Voltage	$V_{EBO}$	-5	V
Collector Current (Continuous)	$I_C$	-2	A
Equivalent On-Resistance	$R_{CE(sat)}$	135	m $\Omega$

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation <sup>*1</sup>	$P_D$	1.15	W
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	108	$^\circ\text{C}/\text{W}$
Junction Temperature Range	$T_J$	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$



### Electrical Characteristics (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA, I <sub>E</sub> = 0	-50	-	-	V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, I <sub>B</sub> = 0	-50	-	-	V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> = 0	-5	-	-	V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0	-	-	-0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> = 0	-	-	-0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -100mA	200	-	-	-
		V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA	200	-	-	-
		V <sub>CE</sub> = -2V, I <sub>C</sub> = -1A	200	-	-	-
		V <sub>CE</sub> = -2V, I <sub>C</sub> = -2A	130	-	-	-
Collector-emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA	-	-	-0.09	V
		I <sub>C</sub> = -1A, I <sub>B</sub> = -50mA	-	-	-0.18	V
		I <sub>C</sub> = -2A, I <sub>B</sub> = -100mA	-	-	-0.32	V
		I <sub>C</sub> = -2A, I <sub>B</sub> = -200mA	-	-	-0.30	V
Equivalent On-Resistance	R <sub>CE(sat)</sub>	I <sub>C</sub> = -2A, I <sub>B</sub> = -200mA	-	90	135	mΩ
Base-emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -2A, I <sub>B</sub> = -100mA	-	-	-1.1	V
Base-emitter Voltage	V <sub>BE(on)</sub>	I <sub>C</sub> = -1A, V <sub>CE</sub> = -2V	-	-	-1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -100mA f = 100MHz	100	-	-	MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = I <sub>C</sub> = 0 f = 1MHz	-	-	35	pF

Note 1: Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm<sup>2</sup>



### Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

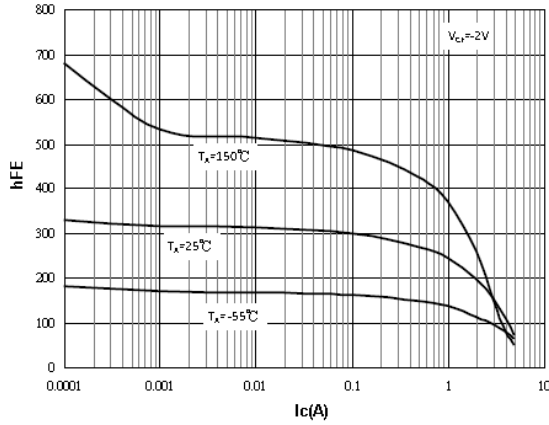


FIG.1 - DC current gain as a function of collector current

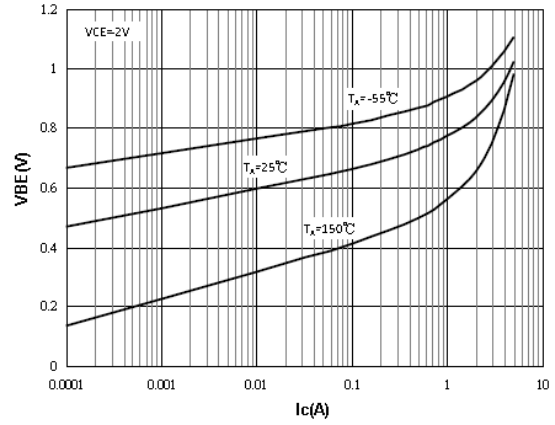


FIG.2 - Base-emitter voltage as a function of collector current

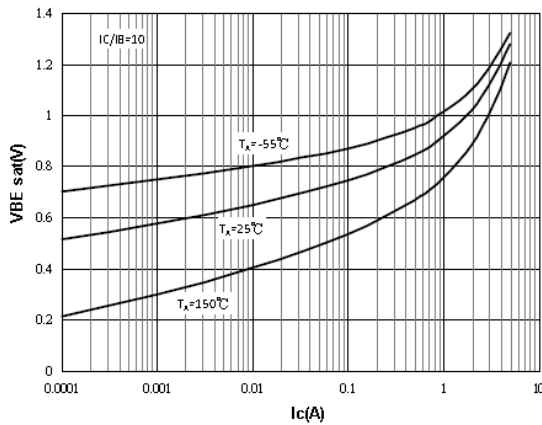


FIG.3 - Base-emitter saturation voltage as a function of collector current

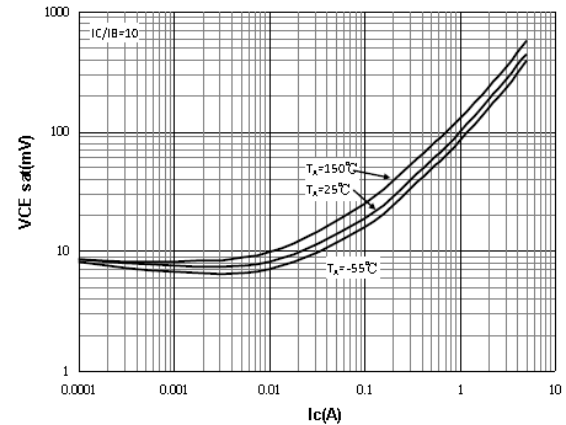


FIG.4 - Collector-emitter saturation voltage as a function of collector current

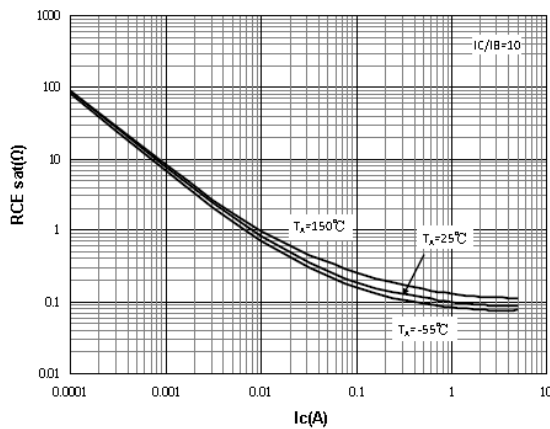
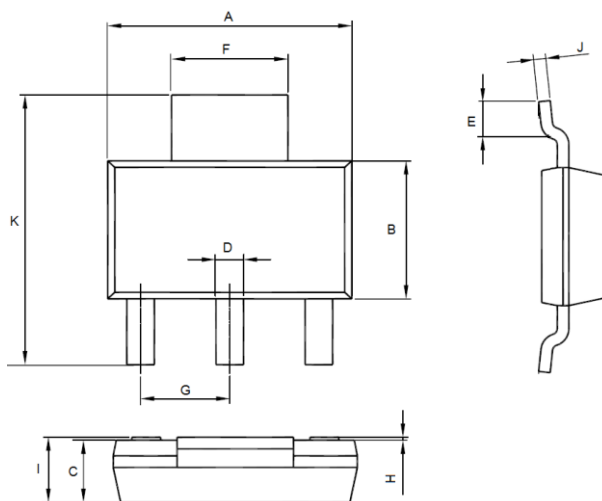


FIG.5 - Equivalent on-resistance as a function of collector current



### Package Outline Dimensions (Unit: mm)



SOT-223		
Dimension	Min.	Max.
A	6.10	6.50
B	3.30	3.70
C	1.50	1.70
D	0.66	0.82
E	0.90	1.15
F	2.90	3.10
G	2.20	2.40
H	0.02	0.10
I	1.52	1.80
J	0.20	0.40
K	6.70	7.30

### Mounting Pad Layout (Unit: mm)

#### SOT-223

