

AGT4350R-HF (NPN)

RoHS Device

Halogen Free

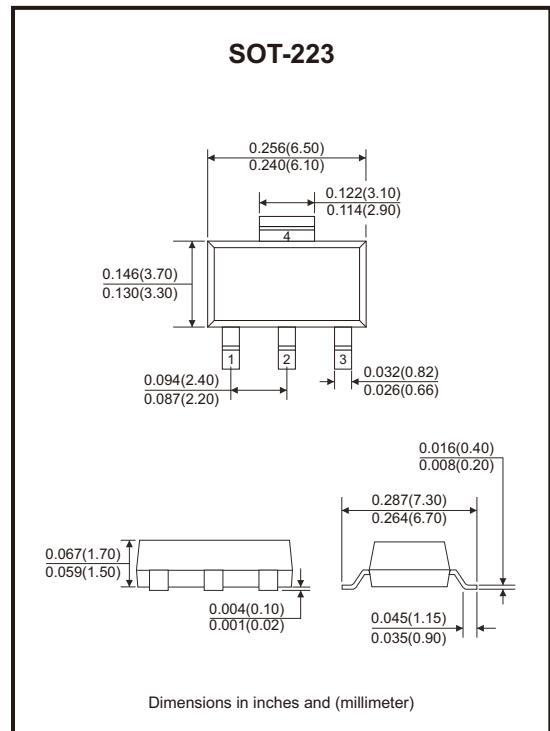
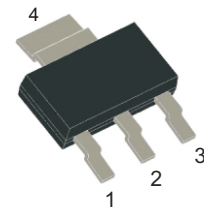
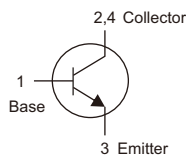
Features

- 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.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-223, molded plastic.
- Molding compound: UL flammability classification rating 94V-0.
- Terminals: Tin-plated, solderability per MIL-STD-202, method 208.

Circuit Diagram



Maximum Ratings (Ta=25°C unless otherwise noted)

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	3	A
Power dissipation (Note 1)	P_D	1.15	W
Thermal resistance, junction to air	$R_{\theta JA}$	227	°C/W
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Notes: 1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm².

Electrical Characteristics (Ta= 25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 50V, I_E = 0, T_J = 25^\circ C$			0.1	μA
		$V_{CB} = 50V, I_E = 0, T_J = 150^\circ C$			50	
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			100	nA
DC current gain	h_{FE}	$V_{CE} = 2V, I_C = 100mA$	300			
		$V_{CE} = 2V, I_C = 500mA$	300			
		$V_{CE} = 2V, I_C = 1A$	300			
		$V_{CE} = 2V, I_C = 2A$	200			
		$V_{CE} = 2V, I_C = 3A$	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			80	mV
		$I_C = 1A, I_B = 50mA$			160	
		$I_C = 2A, I_B = 100mA$			280	
		$I_C = 2A, I_B = 200mA$			260	
		$I_C = 3A, I_B = 300mA$			370	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 100mA$			1.1	V
		$I_C = 3A, I_B = 300mA$			1.2	
Base-emitter voltage	$V_{BE(on)}$	$I_C = 1A, V_{CE} = 2V$			1.2	V
Transition frequency	f_T	$V_{CE} = 5V, I_C = 100mA, f = 100MHz$	100			MHz
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = I_C = 0, f = 1MHz$			25	pF

Rating and Characteristic Curves (AGT4350R-HF)

Fig.1 - DC Current Gain as a Function of Collector Current

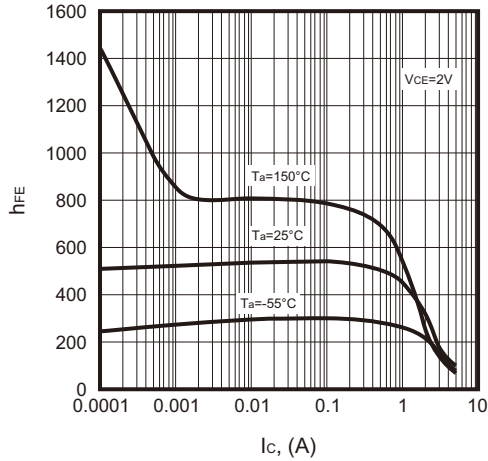


Fig.2 - Base-Emitter Voltage as a Function Current

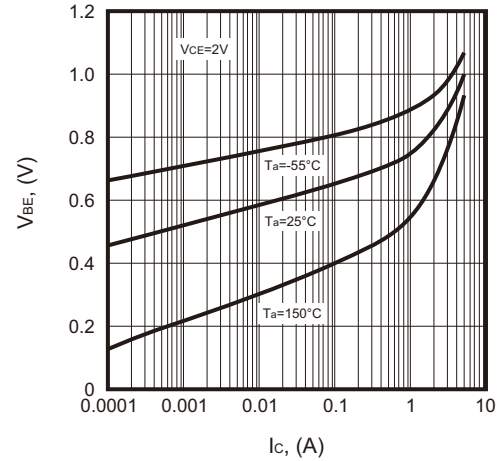


Fig.3 - Base-Emitter Saturation Voltage as a Function of Collector Current

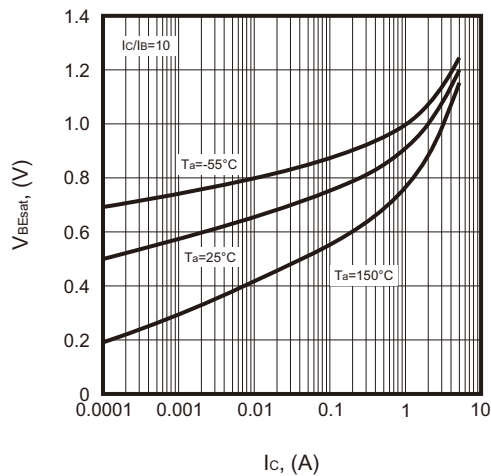


Fig.4 - Collector-Emitter Saturation Voltage as a Function of Collector Current

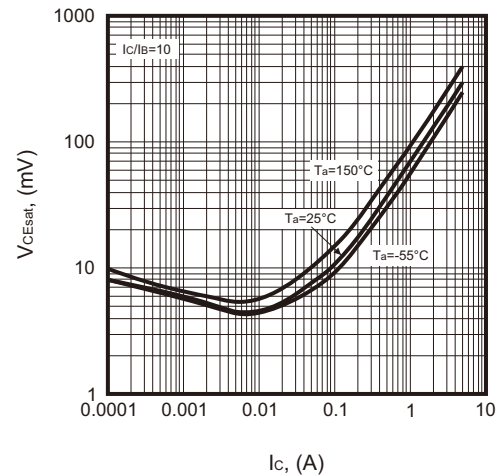
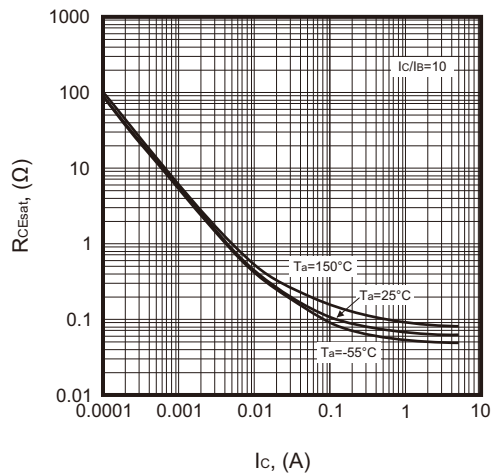
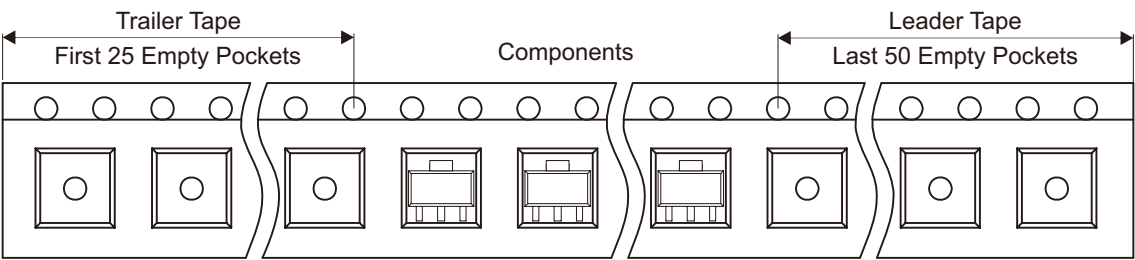
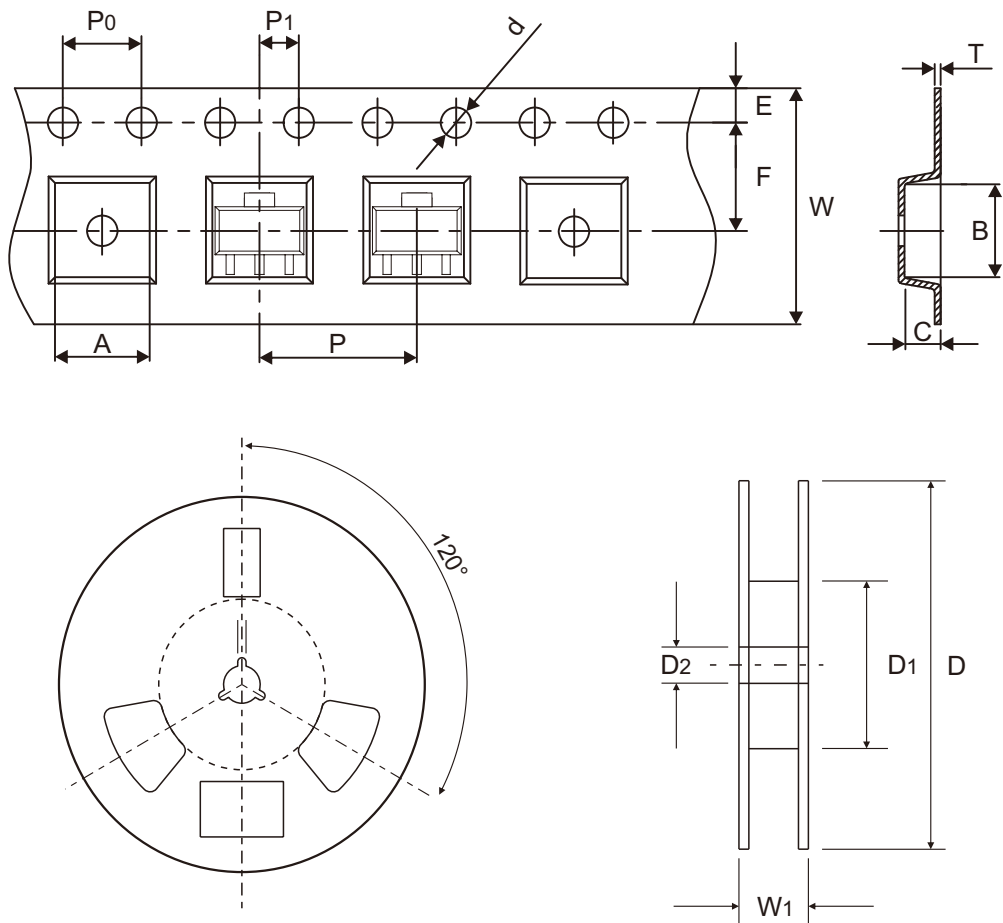


Fig.5 - Equivalent on-Resistance as a Function of Collector Current



Reel Taping Specification

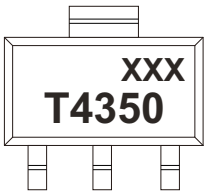


SOT-223	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	7.05 ± 0.10	7.40 ± 0.10	1.90 ± 0.10	1.55 ± 0.05	330.00 ± 2.00	100.00 ± 2.00	13.00 ± 0.20
	(inch)	0.278 ± 0.004	0.291 ± 0.004	0.075 ± 0.004	0.061 ± 0.002	12.992 ± 0.079	3.937 ± 0.079	0.512 ± 0.008

SOT-223	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	5.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.25 ± 0.05	12.00 + 0.30 - 0.10	18.50 ± 2.00
	(inch)	0.069 ± 0.004	0.217 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.010 ± 0.002	0.472 + 0.012 - 0.004	0.728 ± 0.079

Marking Code

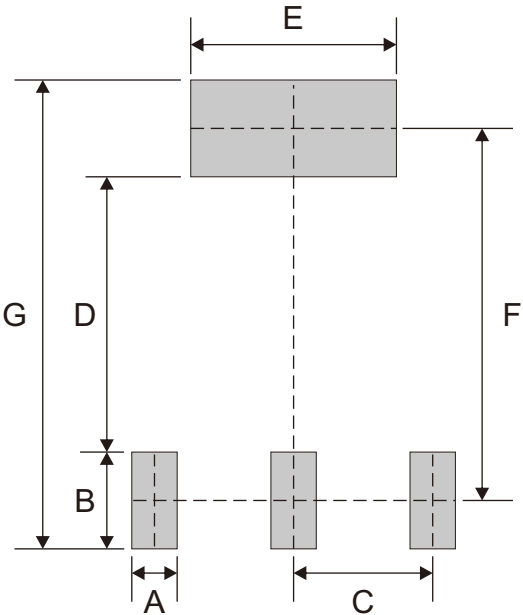
Part Number	Marking Code
AGT4350R-HF	T4350



XXX = Control code

Suggested P.C.B. PAD Layout

SIZE	SOT-223	
	(mm)	(inch)
A	0.75	0.030
B	1.60	0.063
C	2.30	0.091
D	4.55	0.179
E	3.40	0.134
F	6.15	0.242
G	7.75	0.305



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-223	4,000	13