



**THE DATASHEET OF
2SA1015-GR-AP**



Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

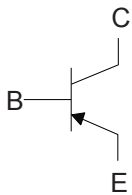
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 312.5°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	150	mA
Power Dissipation	P_D	400	mW

Marking: A1015

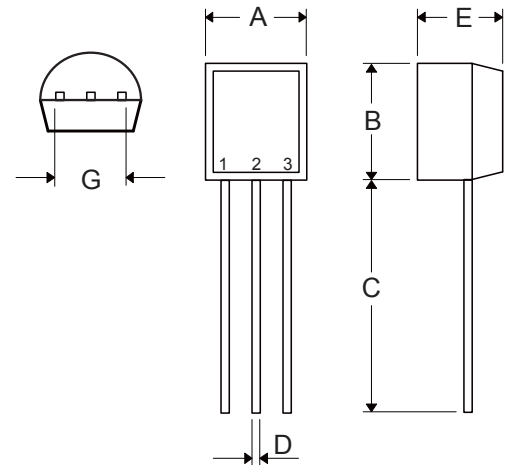
Internal Structure



1.EMITTER
2.COLLECTOR
3.BASE

**PNP Silicon
Plastic-Encapsulate
Transistor**

TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.169	0.185	4.30	4.70	
C	0.500	-----	12.70	-----	
D	0.015	0.022	0.38	0.55	
E	0.130	0.146	3.30	3.70	
G	0.095	0.105	2.42	2.67	Straight Lead
	0.173	0.220	4.40	5.60	Bent

Electrical Characteristics @ $T_A=25^\circ\text{C}$ Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	$I_C=-100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-50			V	$I_C=-0.1\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=-100\mu\text{A}, I_C=0$
Collector Cut-off Current	I_{CBO}			-0.1	μA	$V_{CB}=-50\text{V}, I_E=0$
Emitter Cut-off Current	I_{EBO}			-0.1	μA	$V_{EB}=-5\text{V}, I_C=0$
DC Current Gain	h_{FE}	70		400		$V_{CE}=-6\text{V}, I_C=-2\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.3	V	$I_C=-100\text{mA}, I_B=-10\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.1	V	$I_C=-100\text{mA}, I_B=-10\text{mA}$
Transition Frequency	f_T	80			MHz	$V_{CE}=-10\text{V}, I_C=-1\text{mA}, f=30\text{MHz}$
Collector Output Capacitance	C_{ob}			7	pF	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$
Noise Figure	N_F			6	dB	$V_{CE}=-6\text{V}, I_C=-0.1\text{mA}, f=1\text{KHz}, R_G=10\text{K}\Omega$

Classification of h_{FE}

Rank	O	Y	GR
Range	70-140	120-240	200-400

Curve Characteristics

Fig. 1 - Static Characteristics

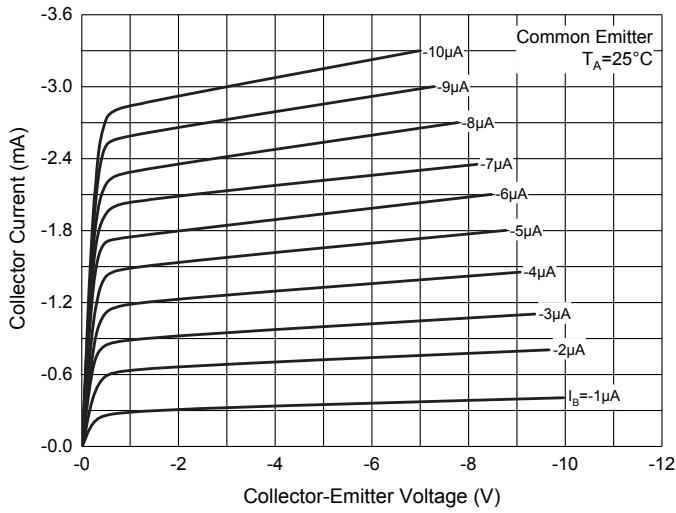


Fig. 2 - DC Current Gain Characteristics

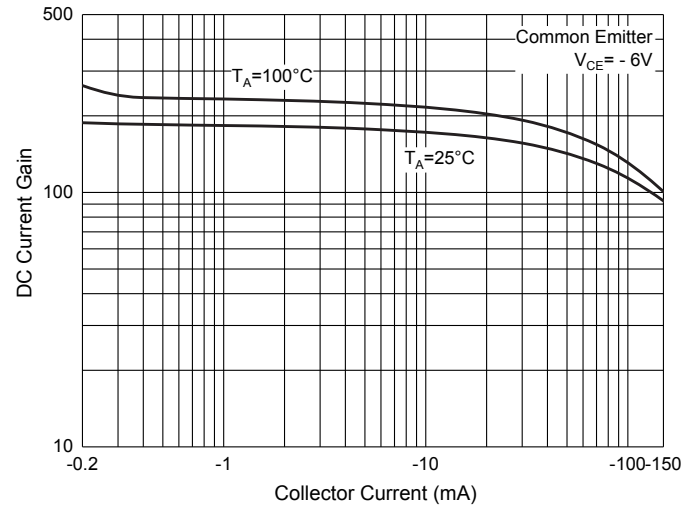


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

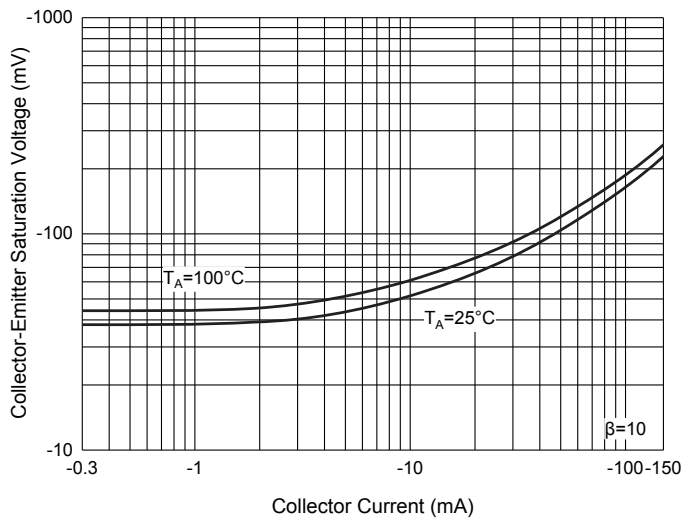


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

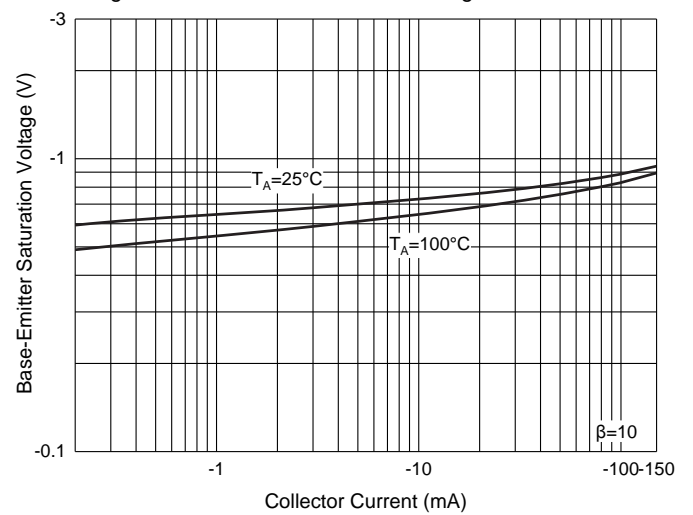


Fig. 5 - Base-Emitter Voltage Characteristics

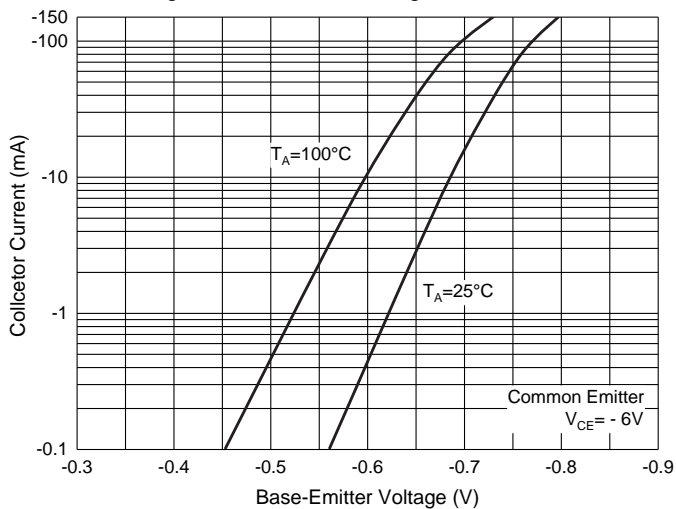
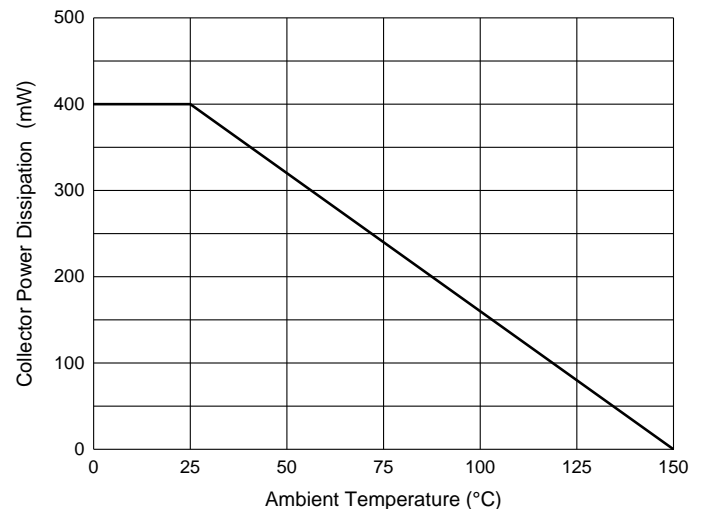


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 1k/Bag, 100K/Ctn;

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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