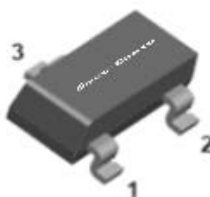
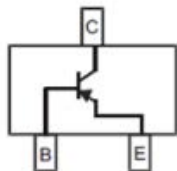


2SA1036

PNP General Purpose Amplifier



SOT-23

Features

- Moisture sensitivity level 1
- Halogen free and
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code			2SA1036-Q	APQ
			2SA1036-R	APR
Collector-base voltage	V _{CBO}	V	I _C =-100μA, I _E =0	-40
Collector-emitter voltage	V _{CEO}	V	I _C =-1mA, I _B =0	-32
Emitter-base voltage	V _{EBO}	V	I _E =-100μA, I _C =0	-5
Collector current	I _C	A		-0.5
Power dissipation	P _D	mW		200
Junction temperature	T _J	°C		-55 to +150
Storage temperature	T _{STG}	°C		-55 to +150

2SA1036

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =-100μA, I _E =0	-40		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =-1mA, I _B =0	-32		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =-100μA, I _C =0	-5		
Collector-base cut-off current	I _{CBO}	μA	V _{CB} =-20V			-0.1
Emitter-base cut-off current	I _{EBO}	μA	V _{EB} =-4V			-0.1
DC current gain	h _{FE}		2SA1036-Q	120		270
			2SA1036-R	180		390
			V _{CE} =-3V, I _C =-100mA			
Collector-emitter saturation voltage	V _{CE(sat)}	V	I _C =-300mA, I _B =-30mA			-0.6
Transition frequency	f _T	MHz	V _{CE} =-5V, I _C =-20mA, f=100MHz		200	
Collector-base output capacitance	Cob	pF	V _{CB} =-10V, I _E =0A, f=1MHz		5	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A ⁽¹⁾	°C/W	625
Thermal resistance, junction-to-case	RθJ-C ⁽¹⁾	°C/W	500

Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

■ Characteristics

Fig 1: Static Characteristics

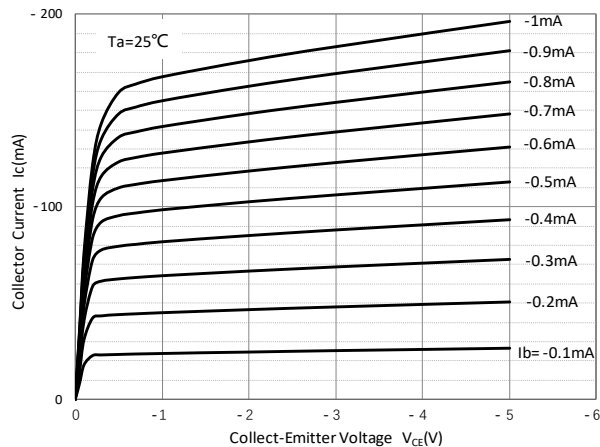


Fig 2: DC Current Gain

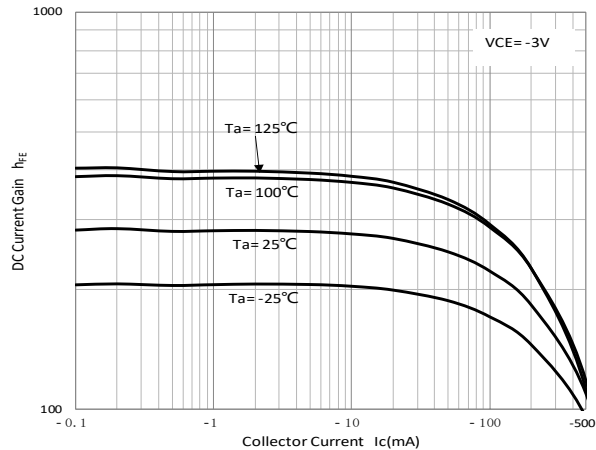


Fig 3: Collector-Emitter Saturation Voltage

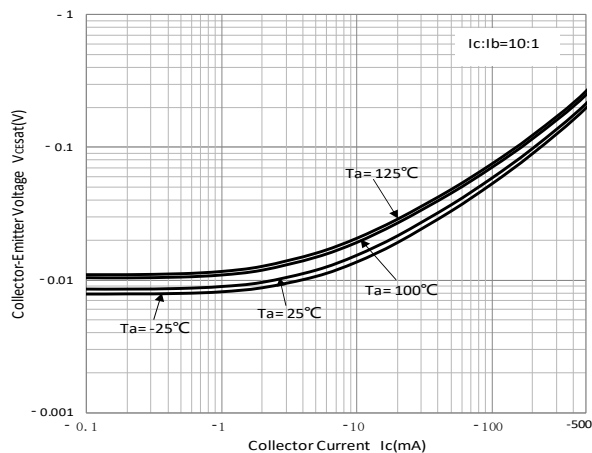


Fig 4: Base-Emitter Saturation Voltage

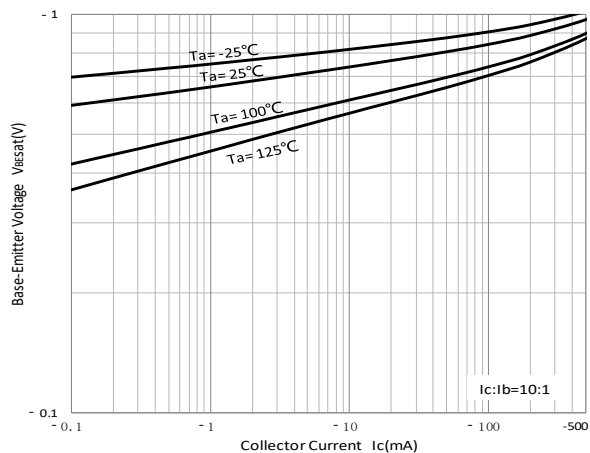


Fig 5: Base-Emitter On Voltage

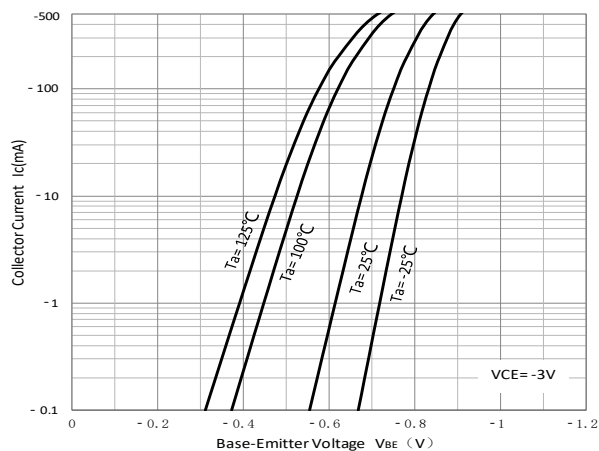
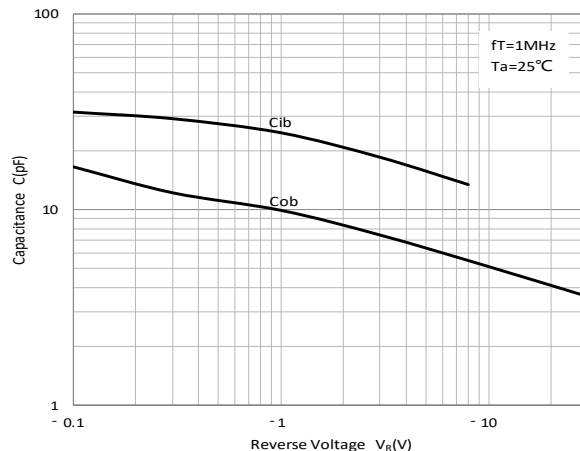
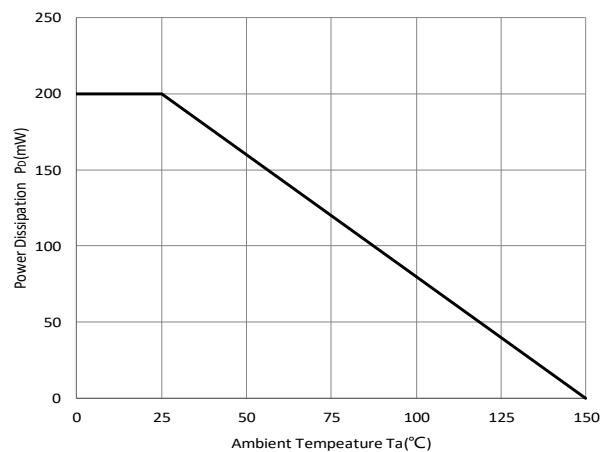


Fig 6: Cob/Cib-V_{CB}/V_{EB}



2SA1036

Fig 7: P_D - T_a Curve

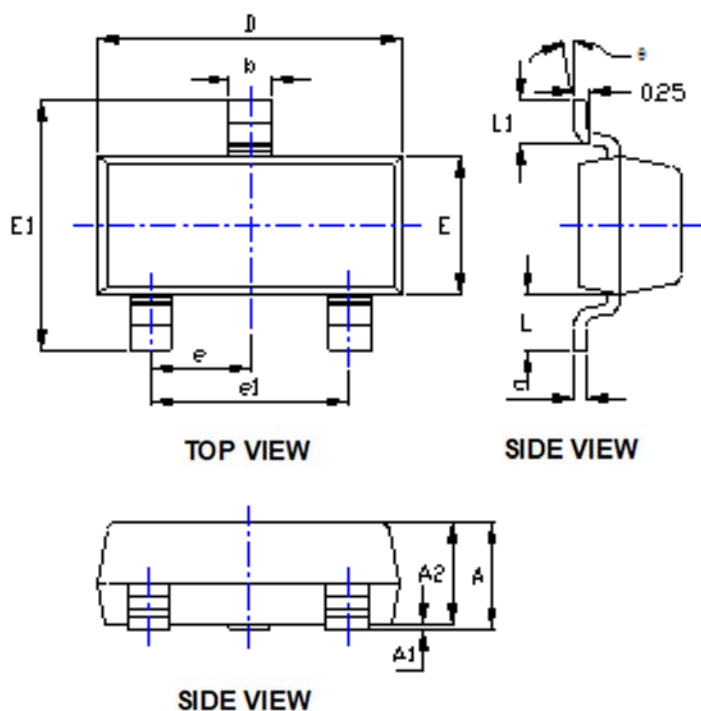


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■ Ordering Information

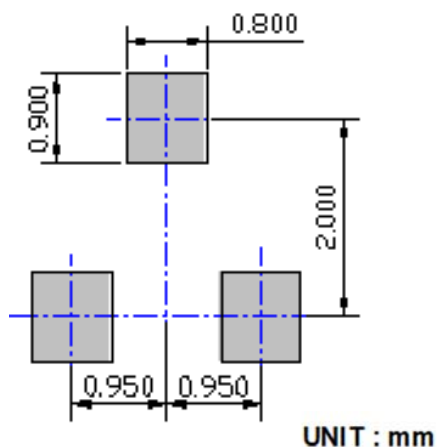
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
2SA1036	F2	Approximate 0.008	3000	30000	120000	7" reel
2SA1036	F4	Approximate 0.008	10000	/	210000	13" reel

■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

■ Suggested Pad Layout



2SA1036

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