Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

PNP General Purpose Amplifier

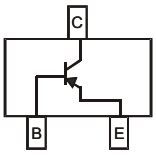
Maximum Ratings

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Thermal Resistance: 417℃/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-200	mA
Power Dissipation	P_D	300	mW

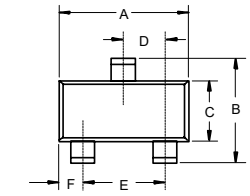
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

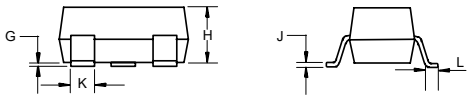
Internal Structure



Marking: 2A

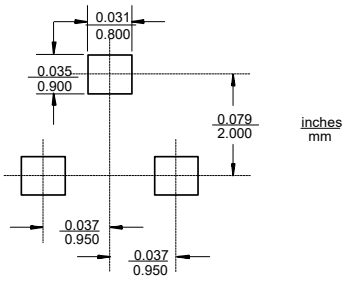
SOT-23





DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.014	0.020	0.35	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout

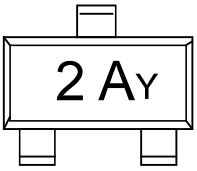


Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40			V	I_C=-10μA, I_E=0
Collector-Emitter Breakdown Voltage(2)	$V_{(BR)CEO}$	-40			V	I_C=-1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-10μA, I_C=0
Collector Cutoff Current	I_{CBO}			-100	nA	V_{CB}=-40V, I_E=0
Collector Cutoff Current	I_{CEX}			-50	nA	V_{CE}=-30V, V_{BE}=-3V
Emitter-Base Cutoff Current	I_{EBO}			-100	nA	V_{EB}=-5V, I_C=0
DC Current Gain(2)	h_{FE1}	100		300		V_{CE}=-1V, I_C=-10mA
	h_{FE2}	60				V_{CE}=-1V, I_C=-50mA
	h_{FE3}	30				V_{CE}=-1V, I_C=-100mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.25	V	I_C=-10mA, I_B=-1mA
				-0.4	V	I_C=-50mA, I_B=-5mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-0.65		-0.85	V	I_C=-10mA, I_B=-1mA
				-0.95	V	I_C=-50mA, I_B=-5mA
Transition Frequency	f_T	250			MHz	V_{CE}=-20V, I_C=-10mA, f=100MHz
Output Capacitance	C_{obo}			4.5	pF	V_{CB}=-5V, I_E=0, f=1MHz,
Input Capacitance	C_{ibo}			10	pF	V_{BE}=-0.5V, I_C=0, f=1MHz,
Noise Figure	NF			4.0	dB	V_{CE}=-5V, I_C=-100μA, R_S=1KΩ, f=1.0KHz)
Delay Time	t_d			35	ns	V_{CC}=-3V, I_C=-10mA
Rise Time	t_r			35	ns	V_{BE}=-0.5V, I_{B1}=-1mA
Storage Time	t_s			225	ns	V_{CC}=-3V, I_C=-10mA
Fall Time	t_f			75	ns	I_{B1}=I_{B2}=-1mA

Note: 2. Pulse Width ≤ 300μs, Duty Cycle≤2.0%

Marking Information



2A = Product Type Marking Code
Y=Date Code Marking

Date Code Key (2 years a cycle)

Year	2019											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	J	O	L	C	K	B	P	D	M	E	G	F

Year	2020											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	W	N	Y	T	R	H	A	I	U	X	Z	S

Curve Characteristics

Fig. 1 - Static Characteristics

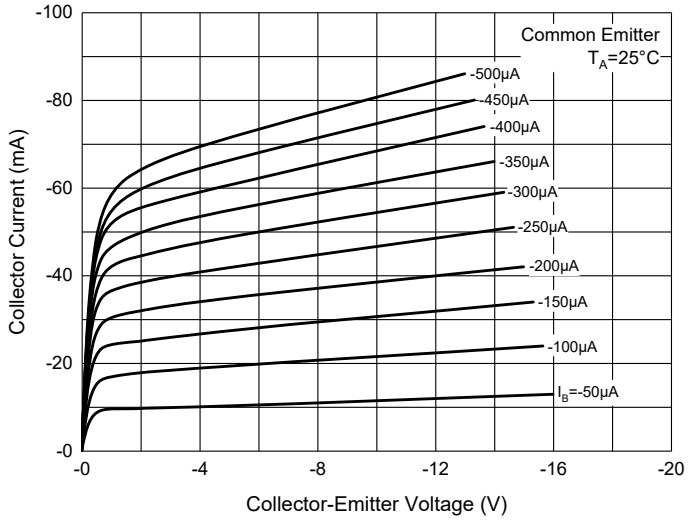


Fig. 2 - DC Current Gain Characteristics

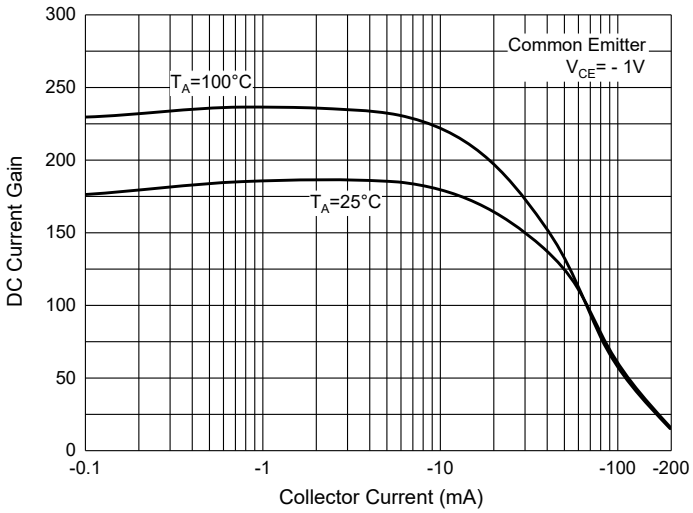


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

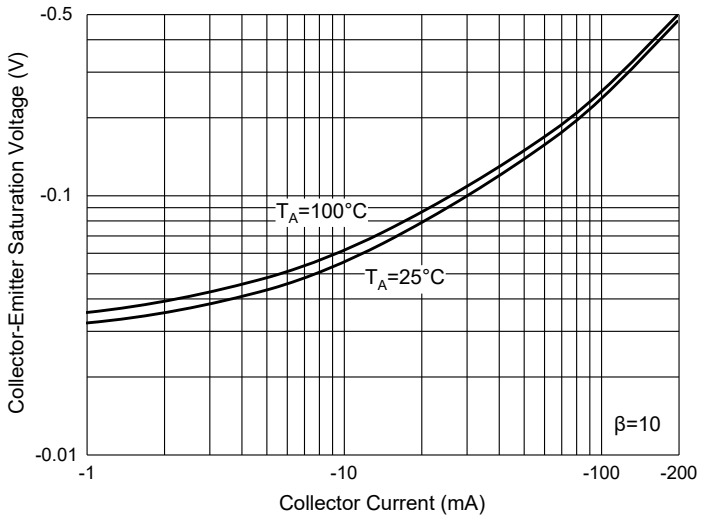


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

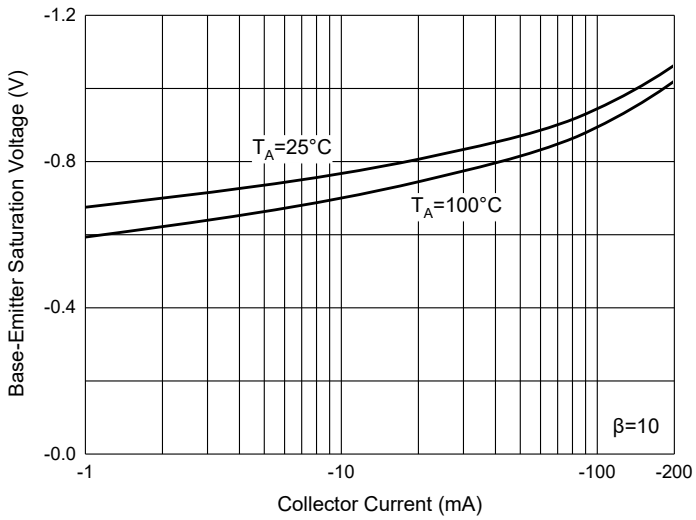


Fig. 5 - Base-Emitter Voltage Characteristics

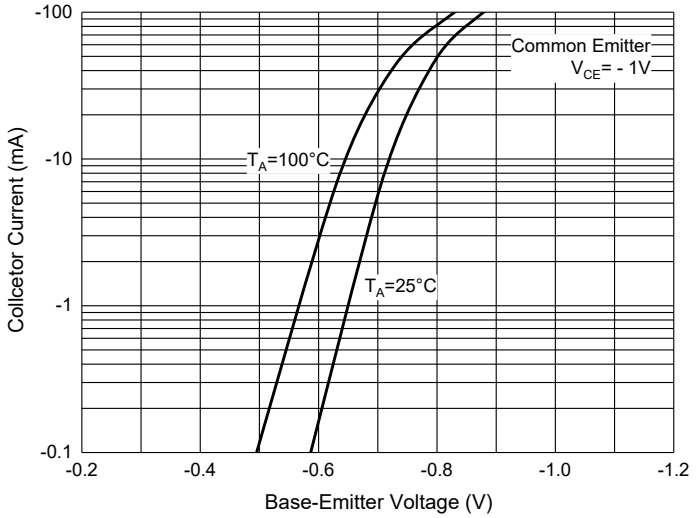
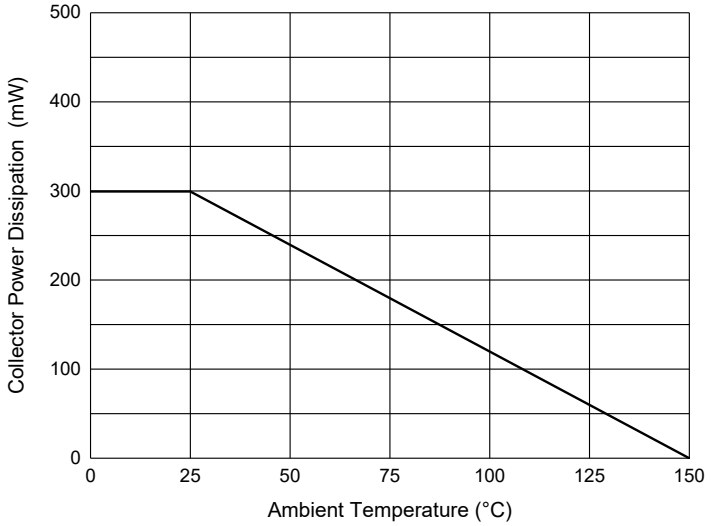


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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