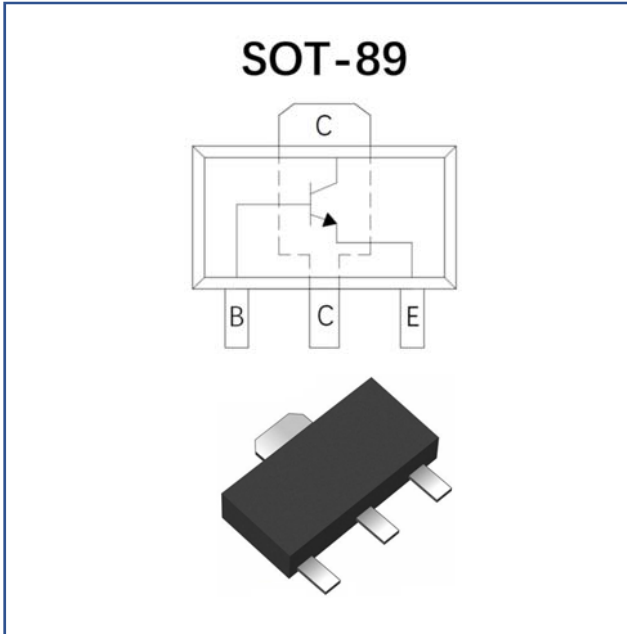


## NPN General Purpose Amplifier



### Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic Insertion

### Application

- Low saturation voltage
- High speed switching

### Mechanical data

- **Package:** SOT-89
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				C554
Collector-base voltage	$V_{CB0}$	V	$I_C=100\mu\text{A}, I_E=0$	100
Collector-emitter voltage	$V_{CE0}$	V	$I_C=1\text{mA}, I_B=0$	100
Emitter-base voltage	$V_{EB0}$	V	$I_E=100\mu\text{A}, I_C=0$	6
Collector current	$I_C$	A		2
Power dissipation	$P_D$	mW		500
Operation junction temperature	$T_J$	$^\circ\text{C}$		-55 to +150
Storage temperature	$T_{STG}$	$^\circ\text{C}$		-55 to +150



# 2SC554

RoHS  
COMPLIANT

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0	100		
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0	100		
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	V	I <sub>E</sub> =100μA, I <sub>C</sub> =0	6		
Collector-base cut-off current	I <sub>CBO</sub>	μA	V <sub>CB</sub> =100V, I <sub>E</sub> =0			1
Emitter-base cut-off current	I <sub>EBO</sub>	μA	V <sub>EB</sub> =4V, I <sub>C</sub> =0			1
DC current gain	h <sub>FE</sub>		V <sub>CE</sub> =3V I <sub>C</sub> =100mA	82		270
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	V	I <sub>C</sub> =500mA I <sub>B</sub> =25mA			0.2
		V	I <sub>C</sub> =1A I <sub>B</sub> =50mA			0.3
Collector-base output capacitance	C <sub>ob</sub>	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		16	

## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	250
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	200

### Note:

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



■ Characteristics

Fig 1: Static Characteristics

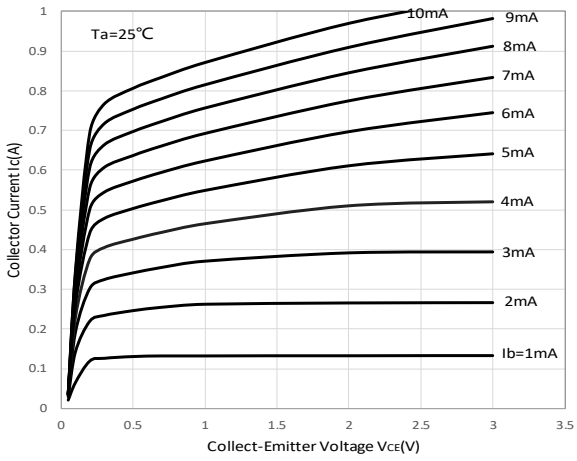


Fig 2: DC Current Gain

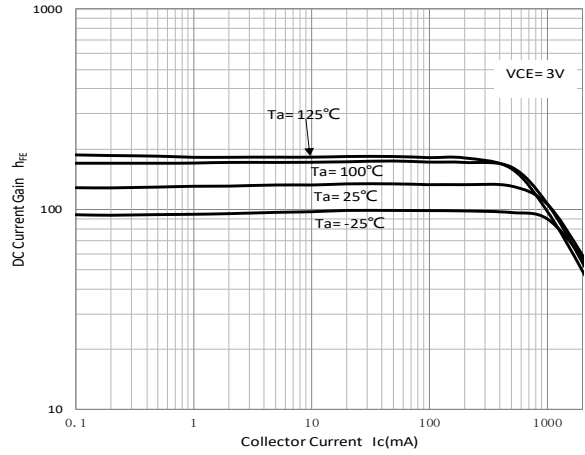


Fig 3: Collector-emitter saturation voltage

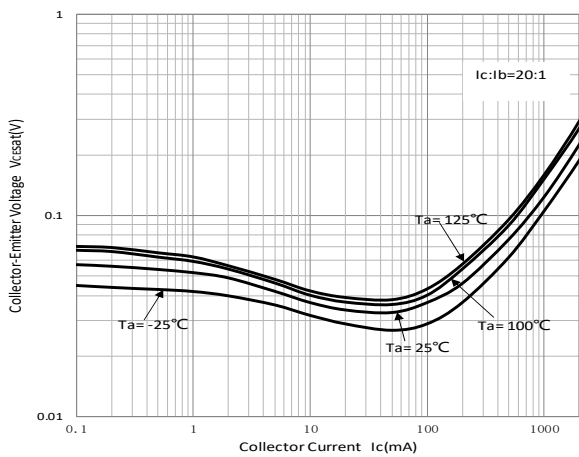


Fig 4: Base-emitter saturation voltage

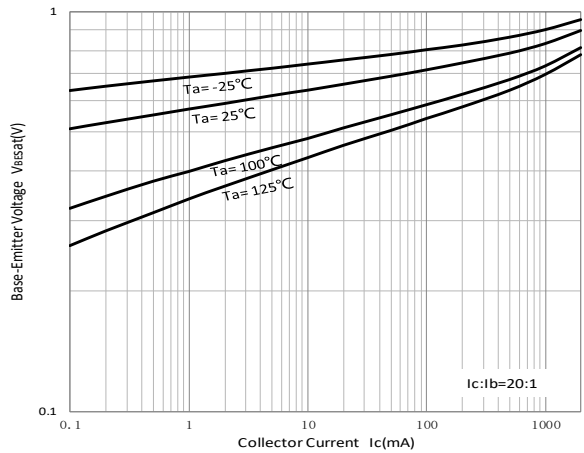


Fig 5: Base-emitter on voltage

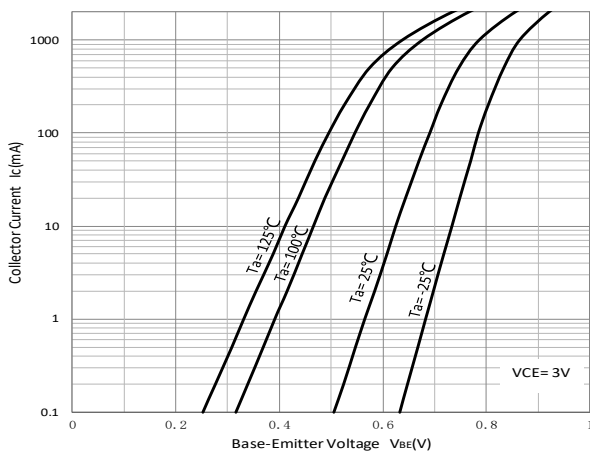


Fig 6: Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>

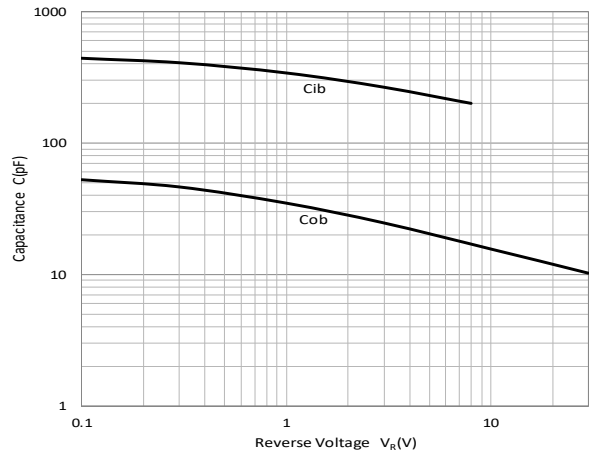
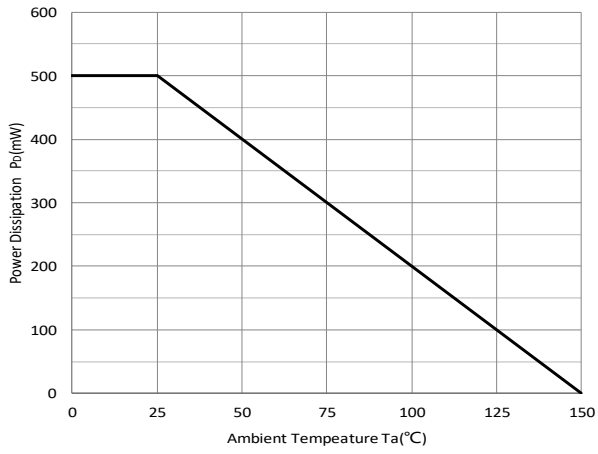




Fig 7:  $P_D$ - $T_a$  Curve





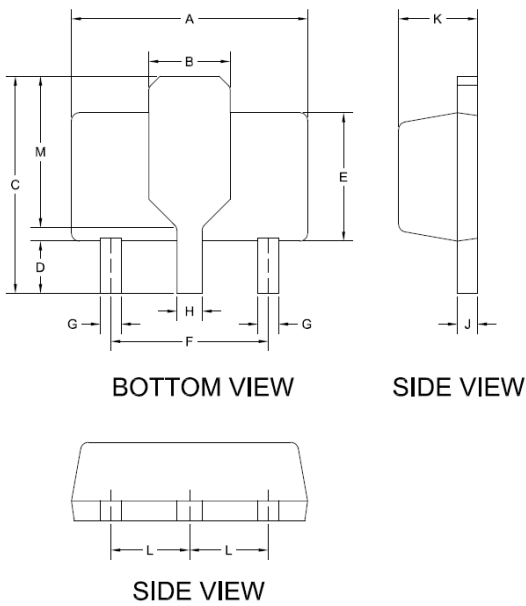
# 2SC554

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## Ordering Information

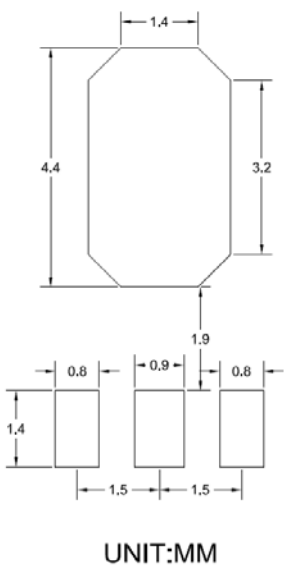
Prefered P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
2SC554	F2	Approximate 0.055	1000	8000	32000	7" reel

## Outline Dimensions



DIM	INCHES		MM	
	MIN.	MAX.	MIN.	MAX.
A	0.173	0.181	4.400	4.600
B	0.061 TYP.		1.550 TYP.	
C	0.155	0.167	3.940	4.250
D	0.031	0.047	0.800	1.200
E	0.094	0.102	2.400	2.600
F	0.118 TYP.		3.00 TYP.	
G	0.014	0.019	0.360	0.480
H	0.017	0.022	0.440	0.560
J	0.014	0.017	0.350	0.440
K	0.055	0.063	1.400	1.600
L	0.059 TYP.		1.500 TYP.	
M	0.108 TYP.		2.750 TYP.	

## Suggested Pad Layout





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