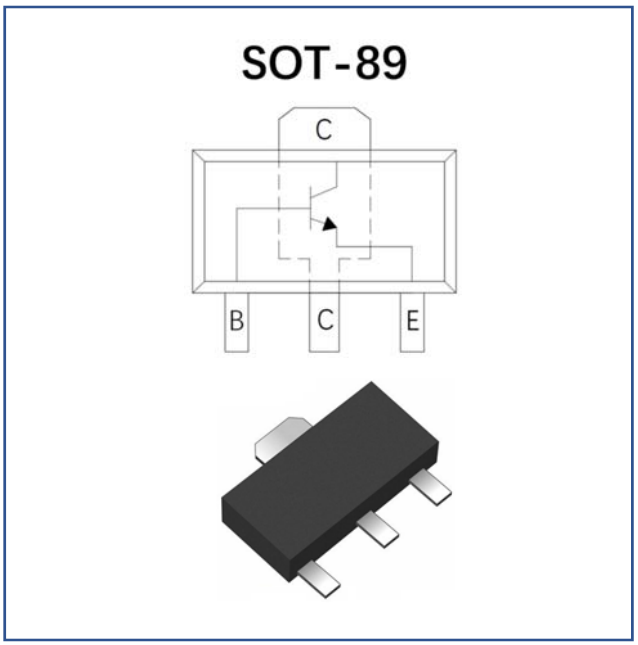
NPN General Purpose Amplifier



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℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				C554
Collector-base voltage	V_{CBO}	V	I_C=100uA, I_E=0	100
Collector-emitter voltage	V_{CEO}	V	I_C=1mA, I_B=0	100
Emitter-base voltage	V_{EBO}	V	I_E=100uA, I_C=0	6
Collector current	I_C	A		2
Power dissipation	P_D	mW		500
Operation junction temperature	T_J	℃		-55 to +150
Storage temperature	T_{STG}	℃		-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	I_C=100uA, I_E=0	100		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	I_C=1mA, I_B=0	100		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	I_E=100uA, I_C=0	6		
Collector-base cut-off current	I_{CBO}	uA	V_{CB}=100V,IE=0			1
Emitter-base cut-off current	I_{EBO}	uA	V_{EB}=4V,IC=0			1
DC current gain	h_{FE}		V_{CE}=3V I_C=100mA	82		270
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	I_C=500mA I_B=25mA			0.2
		V	I_C=1A I_B=50mA			0.3
Collector-base output capacitance	Cob	pF	V_{CB}=10V, I_E=0,f=1MHz		16	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	250
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	200

Note:

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

■Characteristics

Fig 1：Static Characteristics

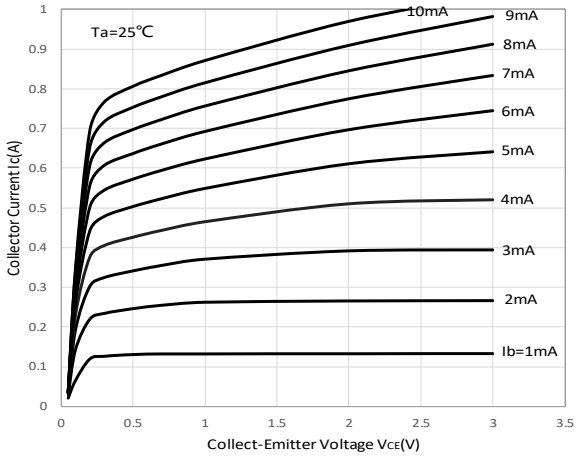


Fig 2：DC Current Gain

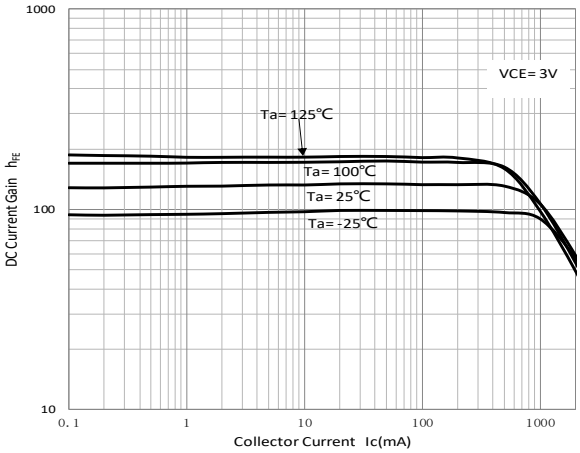


Fig 3：Collector-emitter saturation voltage

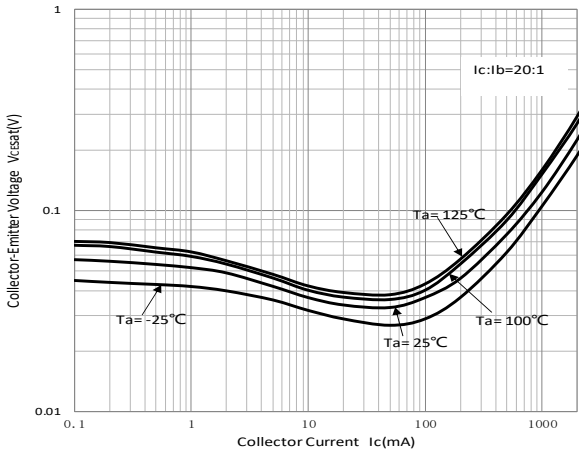


Fig 4：Base-emitter saturation voltage

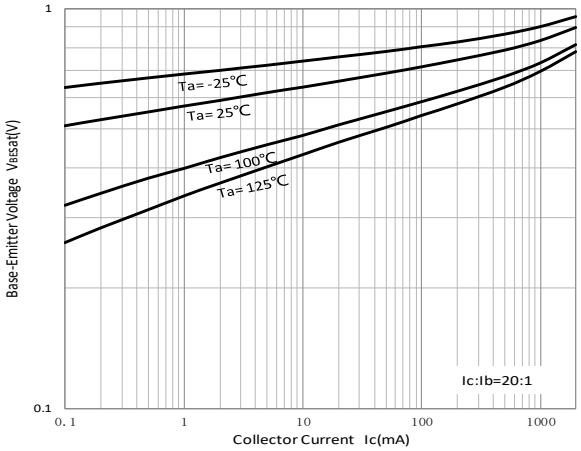


Fig 5：Base-emitter on voltage

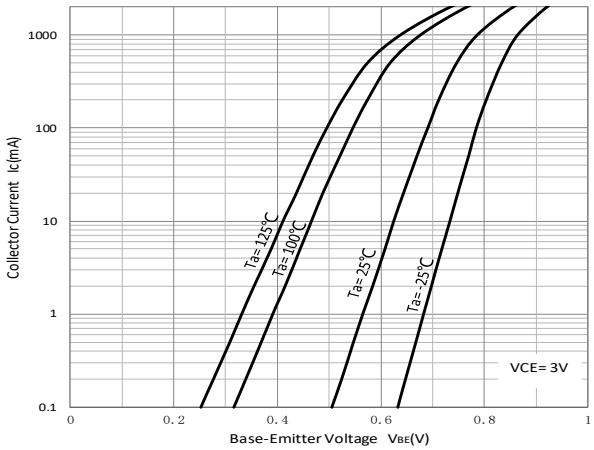
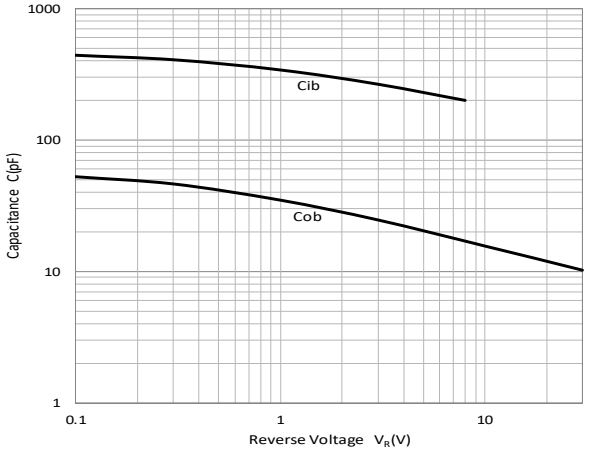
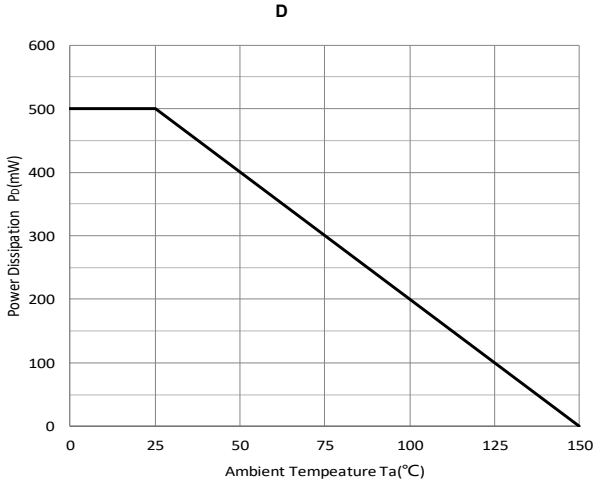


Fig 6：Cob/Cib-V_{CB}/V_{EB}

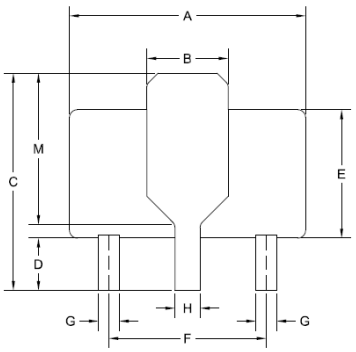



D
600
500
400
300
200
100
0
Power Dissipation Pᴅ(mW)
0
25
50
75
100
125
150
Ambient Tempeature Ta(℃)

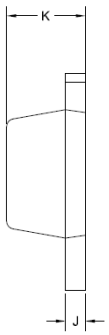
■Ordering Information

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

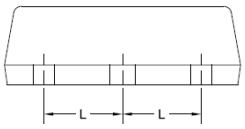
■ Outline Dimensions



BOTTOM VIEW



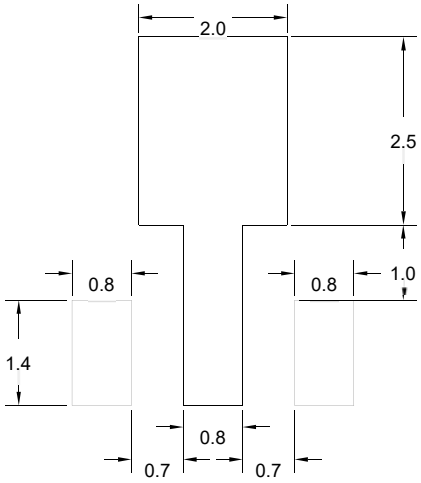
SIDE VIEW



SIDE VIEW

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



UNIT:MM

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.