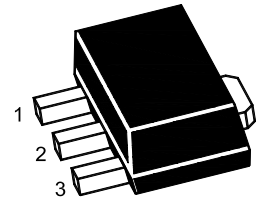


2SC554U

NPN Silicon Epitaxial Planar Transistor

Features

- Low Saturation Voltage
- High Switching speed



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

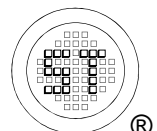
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	2	A
Power Dissipation	P_{tot}	0.5	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	250	$^\circ\text{C/W}$

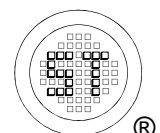
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 500\text{ mA}$	h_{FE}	100	200	-
Collector Base Cutoff Current at $V_{CB} = 100\text{ V}$	I_{CBO}	-	1	μA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	1	μA
Collector Base Breakdown Voltage at $I_C = 0.1\text{ mA}$	$V_{(BR)CBO}$	100	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	100	-	V
Emitter Base Breakdown Voltage at $I_E = 0.1\text{ mA}$	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 25\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	- -	0.2 0.3	V
Base Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 0.1\text{ A}$	$V_{BE(sat)}$	-	1.2	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_E = -100\text{ mA}$	f_T	30	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	23	pF



Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

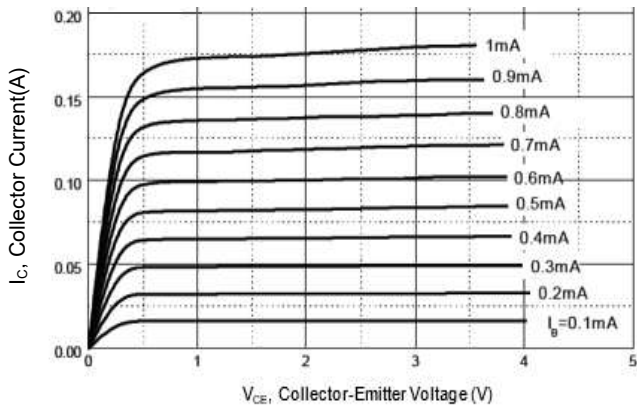


Fig2. DC Current Gain Vs Collector Current

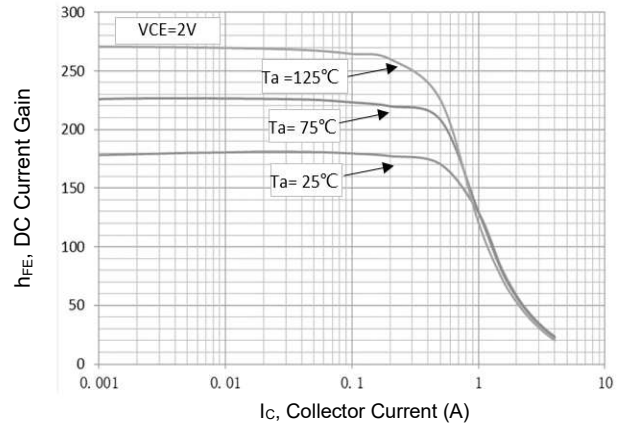


Fig3. Collector Emitter Saturation Voltage Vs Collector Current

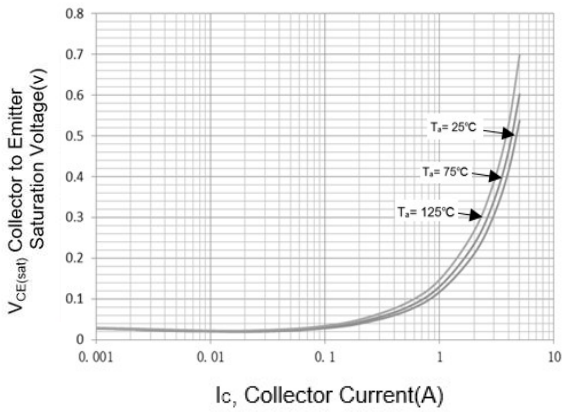


Fig. 4 $V_{BE(sat)}$ vs. Collector Current

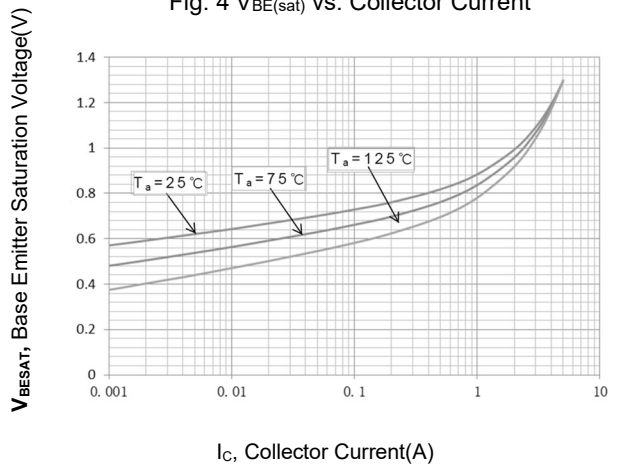
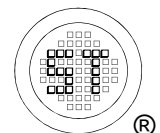
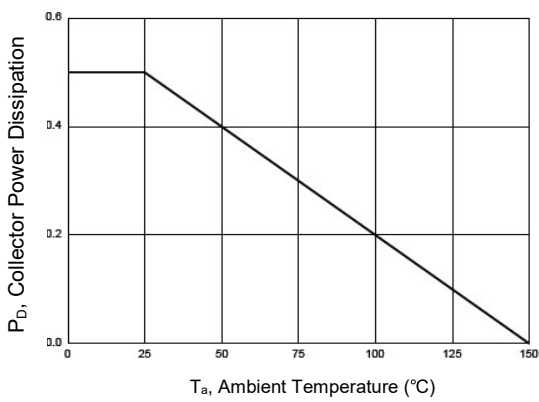


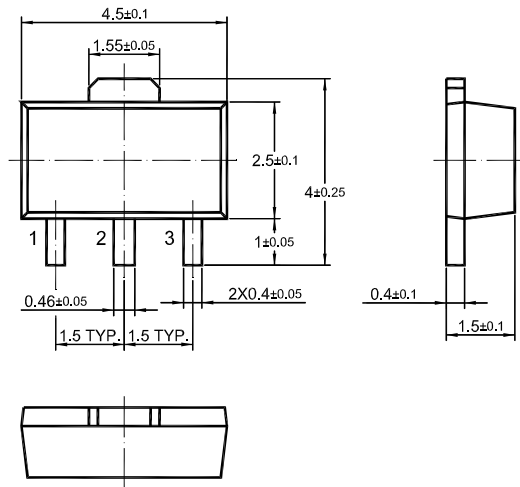
Fig5. Power Derating Curve



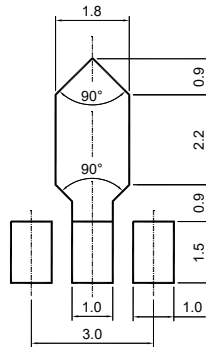
2SC554U

Package Outline(Dimensions in mm)

SOT-89



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-89	12	8 ± 0.1	0.315 ± 0.004	178	7	1,000
				330	13	4,000

Marking information

" 2SC554U " = Part No.

" YM " = Date Code Marking

" Y " = Year

" M " = Month

Font type: Arial

