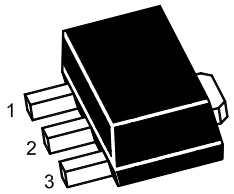
2SC4073U

NPN Silicon Epitaxial Planar Power Transistor



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

Applications

• General purpose amplifier and high voltage application

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	120	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	1	A
Peak Collector Current (Single pulse, t_p = 300 μs)	I_{CP}	2	A
Total Power Dissipation	P_{tot}	0.5 [1)] 1 [2)]	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction Ambient	$R_{\theta JA}$	250 [1)] 125 [2)]	℃/W

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

[2)] Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate in still air.

Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 30 mA	h_{FE}	200	-	400	-
Collector Base Cutoff Current at V_{CB} = 120 V	I_{CBO}	-	-	0.1	µA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	-	-	0.1	µA
Collector Base Breakdown Voltage at I_C = 100 µA	$V_{(BR)CBO}$	120	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	120	-	-	V
Emitter Base Breakdown Voltage at I_E = 100 µA	$V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA at I_C = 100 mA, I_B = 10 mA	$V_{CE(sat)}$	- -	- -	0.5 0.1	V
Base Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA	$V_{BE(sat)}$	-	-	1.2	V
Base Emitter On Voltage at V_{CE} = 2 V, I_C = 200 mA	$V_{BE(on)}$	0.6	-	0.85	V
Transition Frequency at V_{CE} = 5 V, I_C = 50 mA	f_T	-	170	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	6	-	pF

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

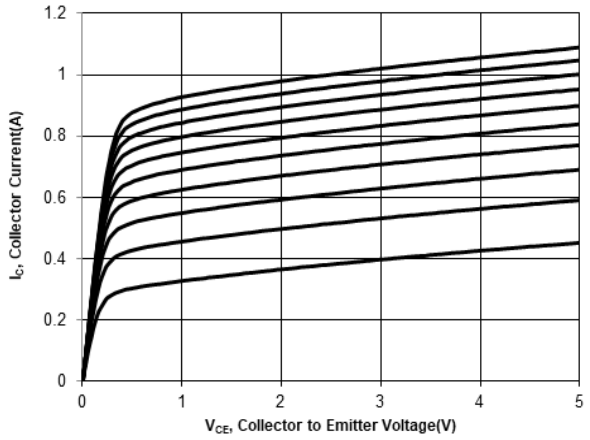


Fig. 2 Collector Current vs. Base to Emitter Voltage

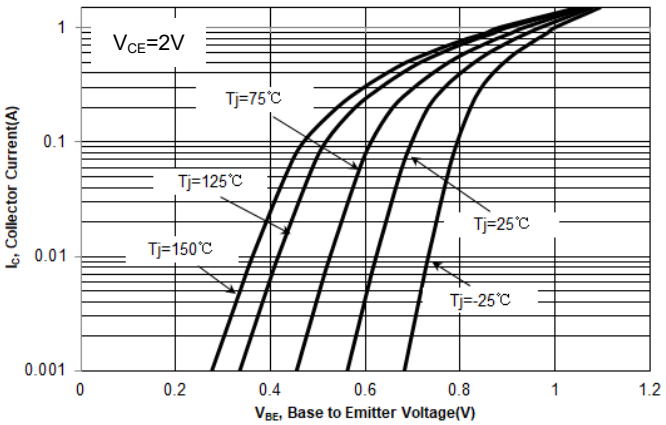


Fig. 3 DC Current Gain vs. Collector Current

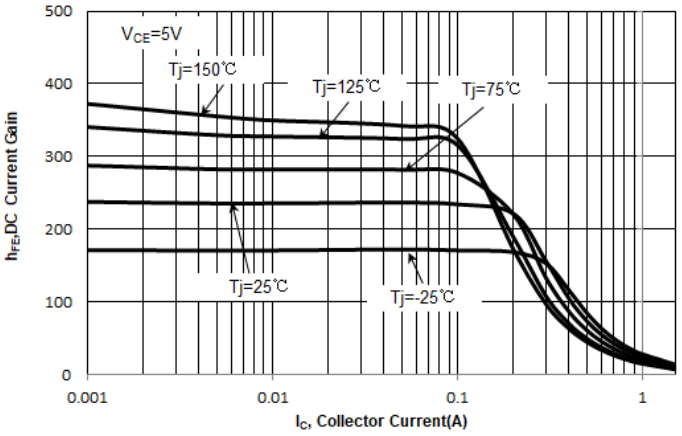
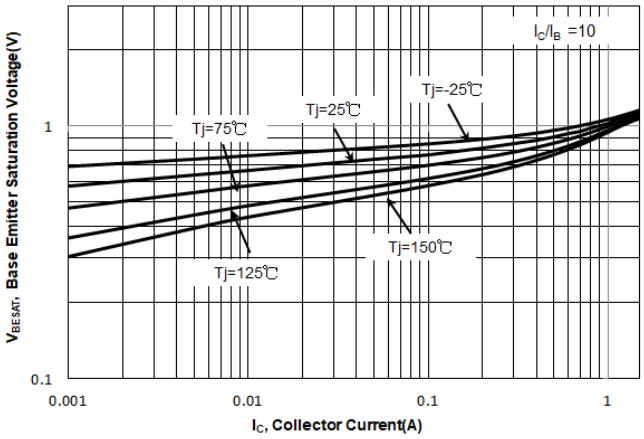


Fig. 4 $V_{BE(SAT)}$ vs. Collector Current



Electrical Characteristics Curves

Fig. 5 $V_{CE(SAT)}$ vs. Collector Current

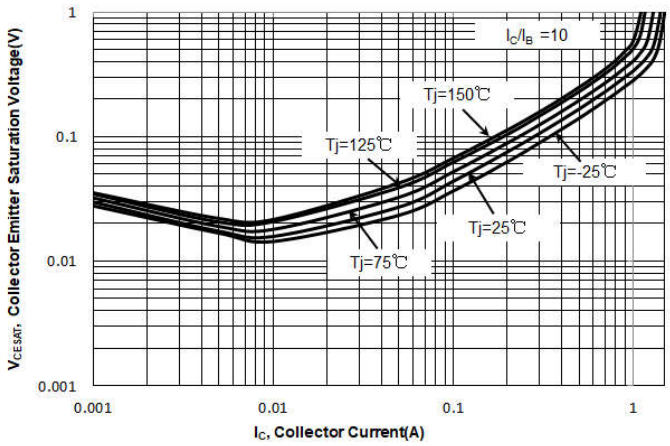


Fig. 6 Junction Capacitance

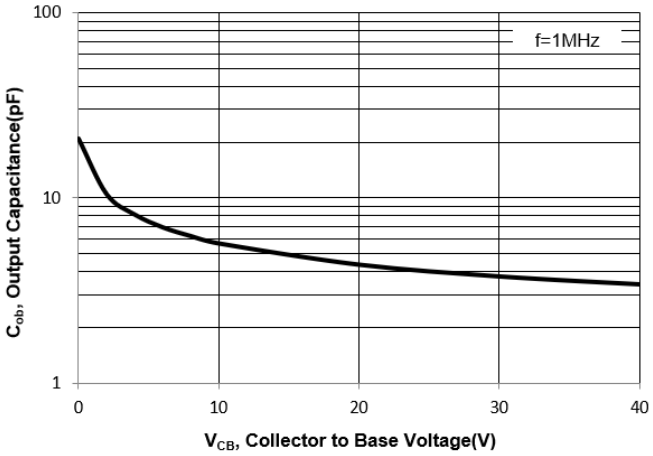
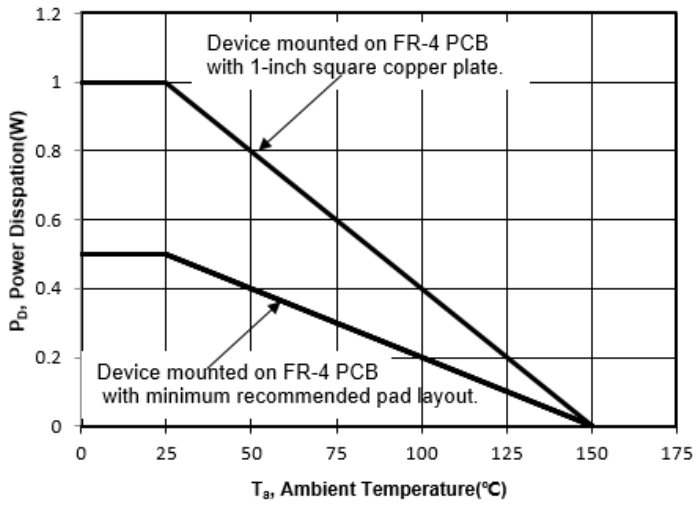


Fig 7. Power Derating Curve



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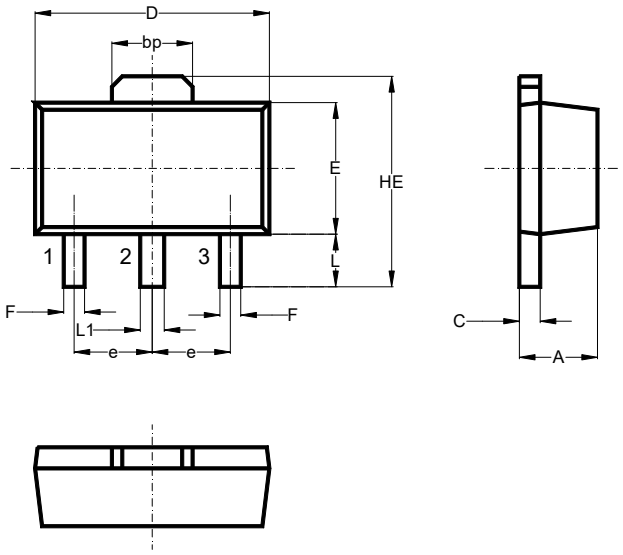
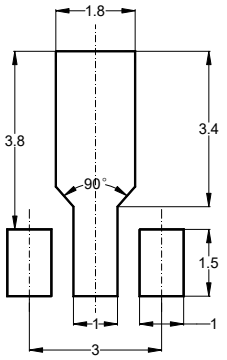
Package Outline (Dimensions in mm) SOT-89



Unit	A	bp	C	D	E	F	HE	e	L	L1
mm	1.6 1.4	1.60 1.50	0.5 0.3	4.6 4.4	2.6 2.4	0.45 0.35	4.25 3.75	1.5 typ.	1.05 0.95	0.51 0.41

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

" 2SC4073U " = Part No.

" YM " = Date Code Marking

" Y " = Year

" M " = Month

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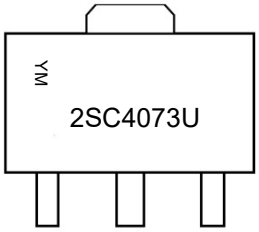

Dated: 29/05/2023 Rev: 07