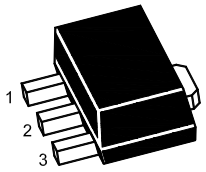
2SD1899U

NPN Silicon Epitaxial Planar Transistor

Features

- Low Collector Emitter Saturation Voltage
- Good h_{FE} linearity



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

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	80	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Peak Collector Current, Pulsed	I_{CM}	2	A
Collector Power Dissipation	P_{tot}	0.5	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 [1)]	$R_{\theta JA}$	250	℃/W

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

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Characteristics at T_a = 25℃

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 3 V, I_C = 0.5 A	Q	h_{FE}	120	-	270	-
	R	h_{FE}	180	-	390	-
Collector Base Cutoff Current at V_{CB} = 100 V		I_{CBO}	-	-	1	μA
Emitter Base Cutoff Current at V_{EB} = 4 V		I_{EBO}	-	-	500	nA
Collector Base Breakdown Voltage at I_C = 50 μA		$V_{(BR)CBO}$	120	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA		$V_{(BR)CEO}$	80	-	-	V
Emitter Base Breakdown Voltage at I_E = 50 μA		$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA		$V_{CE(sat)}$	-	-	400	mV
Transition Frequency at V_{CE} = 20 V, I_C = 50 mA, f = 100 MHz		f_T	-	180	-	MHz
Collector Base Capacitance at V_{CB} = 10 V, f = 1 MHz		C_{ob}	-	9	-	pF

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Electrical Characteristics Curves

Fig 1. DC Current Gain vs. Collector Current

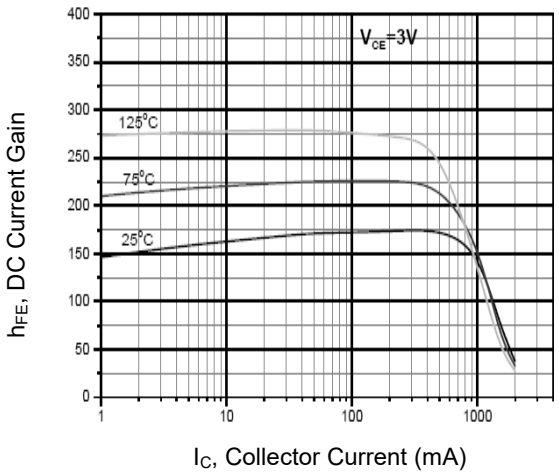


Fig 2. $V_{CE(sat)}$ vs. Collector Current

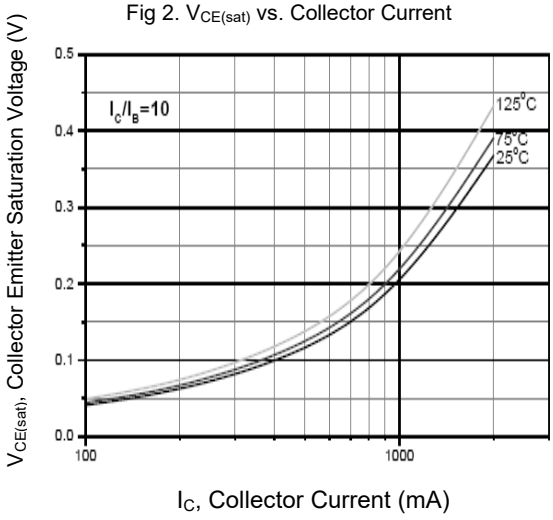


Fig 3. $V_{BE(sat)}$ vs. Collector Current

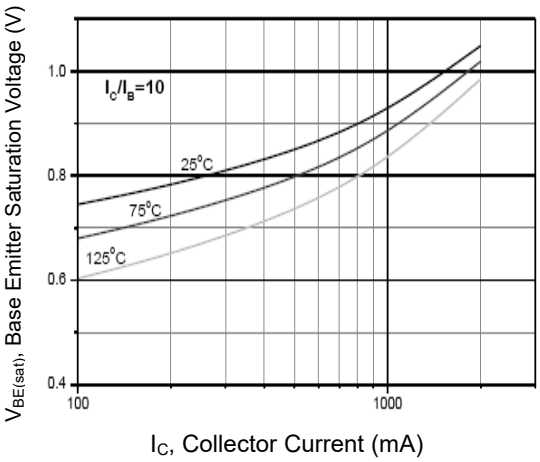
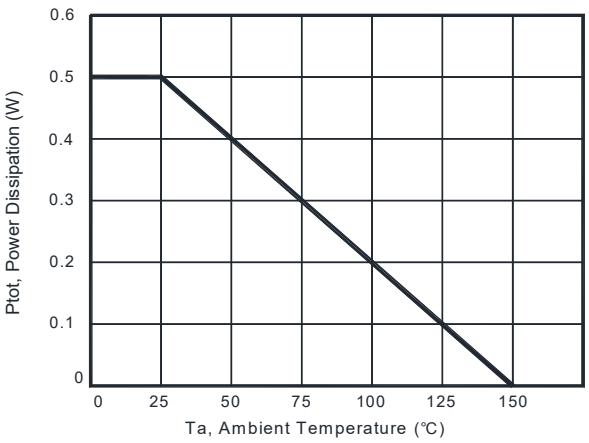


Fig 4. Power Derating Curve



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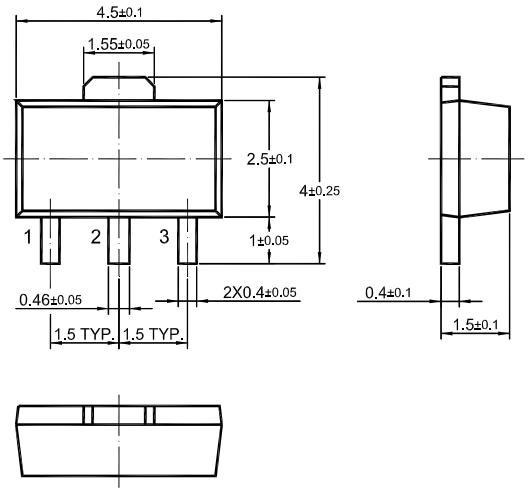
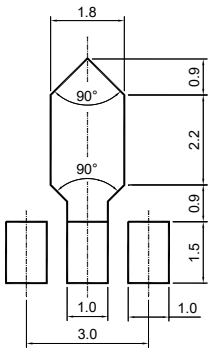
Package Outline (Dimensions in mm) SOT-89



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

" 2SD1899*U " = Part No. ("*" = HFE grouping Code)
"YM" = Date Code Marking
"Y" = Year
"M" = Month
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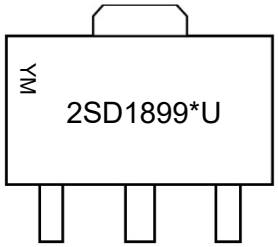

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