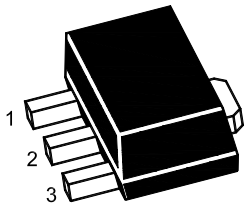
2SA2060U

PNP Silicon Epitaxial Planar Transistor

for high speed switching, DC-DC converter
and strobe applications



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

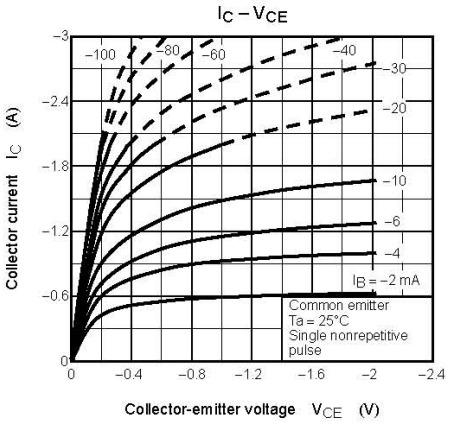
Absolute Maximum Ratings (T_a = 25℃)

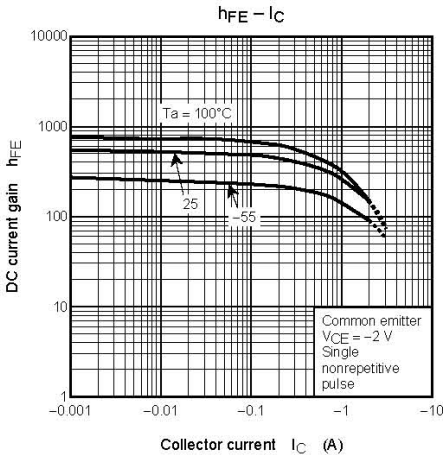
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	7	V
Collector Current (DC)	$-I_C$	2	A
Collector Current (Pulse)	$-I_{CP}$	3.5	A
Base Current	$-I_B$	200	mA
Collector Power Dissipation	P_{tot}	0.5 1 [1)]	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

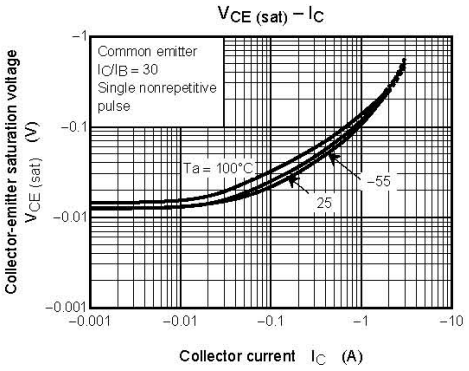
[1)] Mounted on a ceramic substrate (250 mm^2 x 0.8 t)

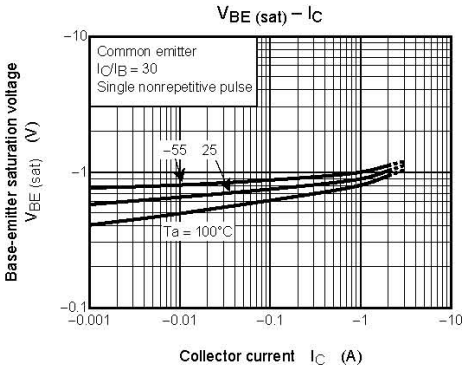
Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 2 V, $-I_C$ = 300 mA at $-V_{CE}$ = 2 V, $-I_C$ = 1 A	 h_{FE} h_{FE}	 200 100	 - -	 500 -	 - -
Collector Base Cutoff Current at $-V_{CB}$ = 50 V	$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 7 V	$-I_{EBO}$	-	-	100	nA
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA	$-V_{(BR)CEO}$	50	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 33 mA	$-V_{CE(sat)}$	-	-	0.2	V
Base Emitter Saturation Voltage at $-I_C$ = 1 A, $-I_B$ = 33 mA	$-V_{BE(sat)}$	-	-	1.1	V
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz	C_{ob}	-	20	-	pF
Rise Time at $-V_{CC} \approx$ 30 V, $I_{B1} = -I_{B2}$ = 33 mA, R_L=30 Ω	t_r	-	60	-	ns
Storage Time at $-V_{CC} \approx$ 30 V, $I_{B1} = -I_{B2}$ = 33 mA, R_L=30 Ω	t_{stg}	-	250	-	ns
Fall Time at $-V_{CC} \approx$ 30 V, $I_{B1} = -I_{B2}$ = 33 mA, R_L=30 Ω	t_f	-	90	-	ns


$I_C - V_{CE}$
Collector current I_C (A)
Collector-emitter voltage V_{CE} (V)
−100
−80
−60
−40
−30
−20
−10
−6
−4
I_B = −2 mA
Common emitter
Ta = 25°C
Single nonrepetitive pulse
0
−0.4
−0.8
−1.2
−1.6
−2
−2.4
−3
−1.8
−0.6

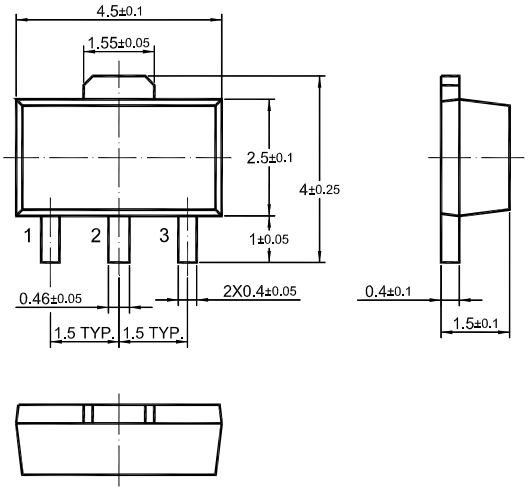

$h_{FE} - I_C$
DC current gain h_{FE}
Collector current I_C (A)
Ta = 100°C
25
−55
Common emitter
V_{CE} = −2 V
Single nonrepetitive pulse
10000
1000
100
10
1
−0.001
−0.01
−0.1
−1
−10


$V_{CE\ (sat)} - I_C$
Collector-emitter saturation voltage $V_{CE\ (sat)}$ (V)
Collector current I_C (A)
Common emitter
I_C/I_B = 30
Single nonrepetitive pulse
Ta = 100°C
25
−55
−1
−0.1
−0.01
−0.001

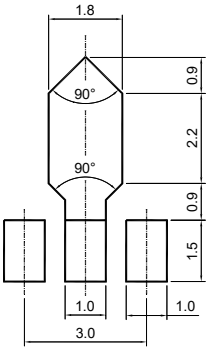

$V_{BE\ (sat)} - I_C$
Base-emitter saturation voltage $V_{BE\ (sat)}$ (V)
Collector current I_C (A)
Common emitter
I_C/I_B = 30
Single nonrepetitive pulse
−55
25
Ta = 100°C
−10
−1
−0.1
−0.001
−0.01
−0.1
−1
−10

2SA2060U

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

" 2SA2060U " = Part No.
"YM" = Date Code Marking
"Y" = Year
"M" = Month
Font type: Arial