

**DESCRIPTION**

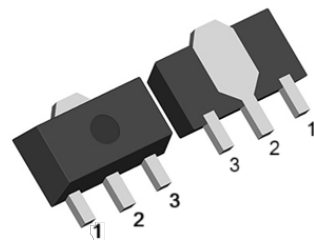
The 2SA1203-O & 2SA1203-Y is available in SOT-89 package.

FEATURE

- Suitable for Output Stage of 3 Watts Amplifier
- Small Flat Package
- $P_C = 1$ to 2W (mounted on ceramic substrate)
- Complementary to 2SC2883

ORDERING INFORMATION

Package Type	Part Number
SOT-89	2SA1203-O
	2SA1203-Y
SPQ	1,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION

SOT-89

 h_{FE} CLASSIFICATION

Rank	Range
O	100 ~ 200
Y	160 ~ 320

PIN#	DESCRIPTION
1	Base
2	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^\circ\text{C}$, unless otherwise specified.

V_{CBO} , Collector-Base Voltage	-30 V
V_{CEO} , Collector-Emitter Voltage	-30 V
V_{EBO} , Emitter-Base Voltage	-5 V
I_C , Collector Current	-1.5 A
I_B , Base Current	-0.3 A
P_C , Collector Power Dissipation	500 mW
$P_C^{(1)}$, Collector Power Dissipation	1000 mW
T_J , Junction Temperature	150 °C
T_{stg} , Storage Temperature Range	-55 ~ +150 °C

(1) Mounted on ceramic substrate (250 mm² x 0.8 t)

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**ELECTRICAL CHARACTERISTICS** $T_A=25^{\circ}\text{C}$ unless otherwise specified.

Parameter	Symbols	Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CBO}	$V_{CB} = -30\text{ V}, I_E = 0$	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	-	-	-0.1	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-30	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -1\text{ mA}, I_C = 0$	-5	-	-	V
DC Current Gain	h_{FE}	$V_{CE} = -2\text{ V},$ $I_C = -500\text{ mA}$	100	-	320	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.5\text{ A},$ $I_B = -0.03\text{ A},$	-	-	-2	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -2\text{ V},$ $I_C = -500\text{ mA}$	-	-	-1	V
Transition Frequency	f_T	$V_{CE} = -2\text{ V},$ $I_C = -500\text{ mA}$	-	120	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V},$ $I_E = 0$ $f = 1\text{ MHz}$	-	-	50	pF



TYPICAL CHARACTERISTICS

Fig 1. $I_C - V_{CE}$

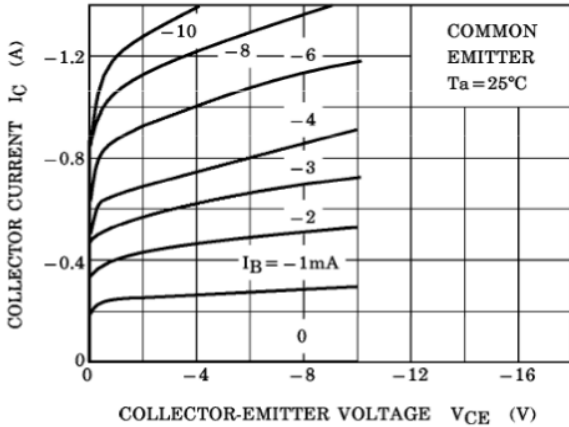


Fig 2. $h_{FE} - I_C$

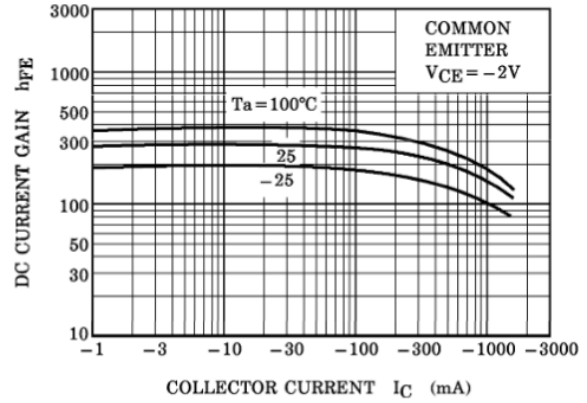


Fig 3. $V_{CE(sat)} - I_C$

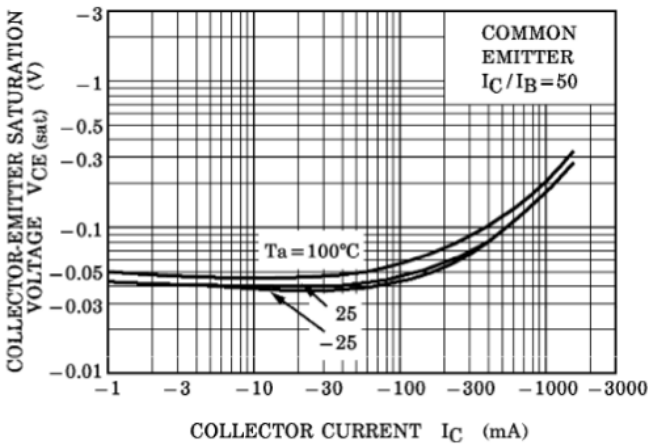


Fig 4. $I_C - V_{BE}$

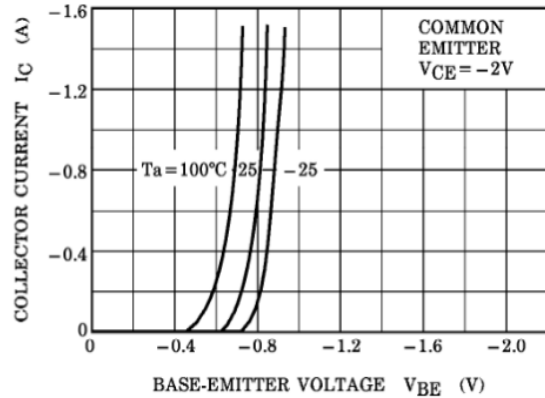


Fig 5. SAFE OPERATING AREA

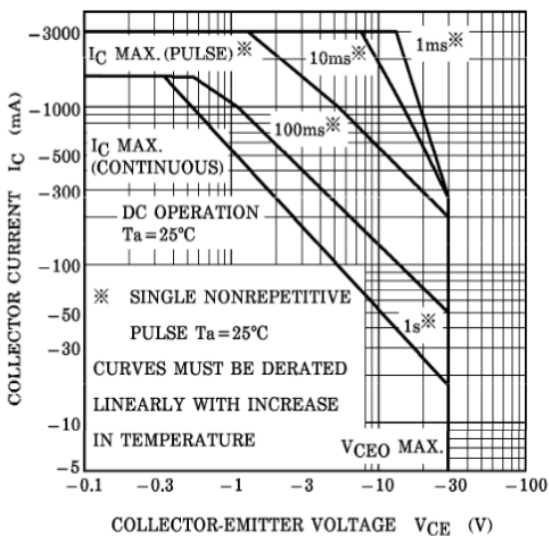
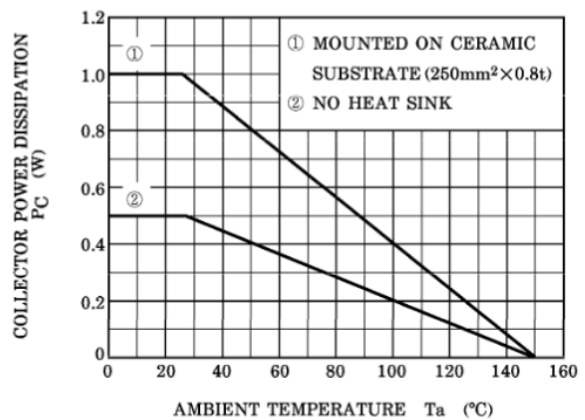


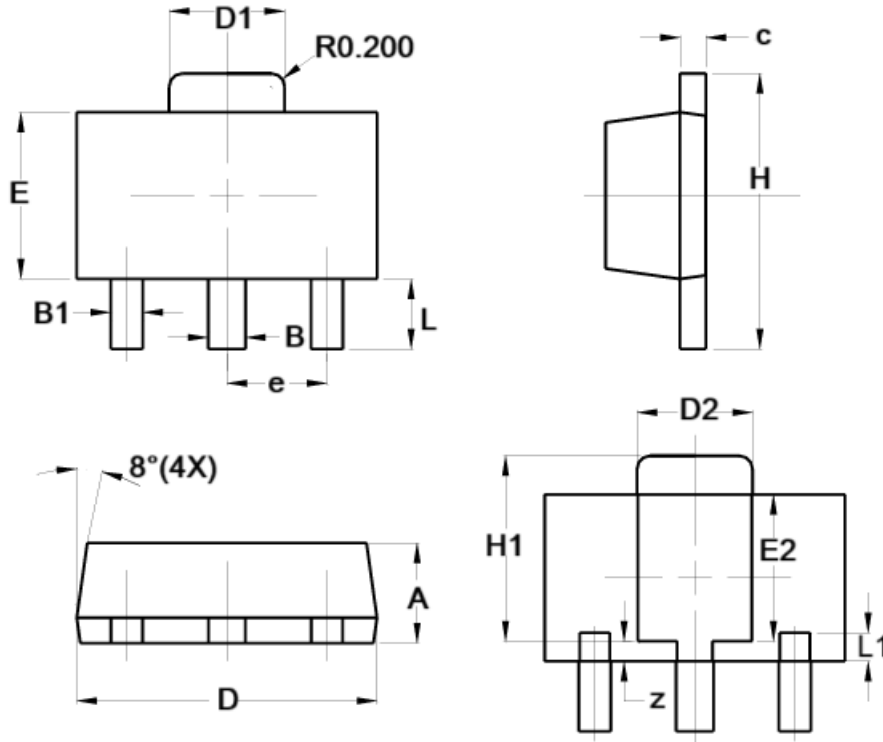
Fig 6. $P_C - T_a$





PACKAGE INFORMATION

Dimension in SOT-89 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.600
B	0.500	0.620
B1	0.420	0.540
c	0.350	0.430
D	4.440	4.600
D1	1.620	1.830
D2	1.610	1.810
E	2.400	2.600
E2	2.050	2.350
e	1.500 TYP.	
H	3.950	4.250
H1	2.630	2.930
L	0.900	1.200
L1	0.327	0.527
z	0.200	0.400



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