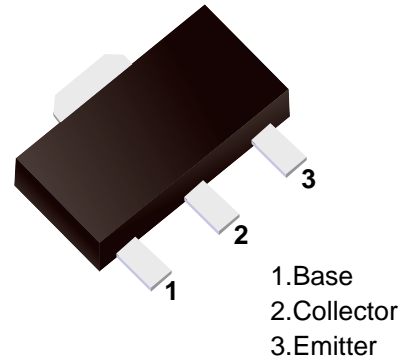


■ NPN Transistors

■ Features

- High  $V_{CE0}$ ,  $V_{CE0}=80V$
- High  $I_c$ ,  $I_c=1A$  (DC)
- Low  $V_{CE(sat)}$
- Complementary to 2SB1260



■ Simplified outline(SOT-89)

■ Absolute Maximum Ratings  $T_a = 25^{\circ}C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	120	V
Collector - Emitter Voltage	$V_{CE0}$	80	
Emitter - Base Voltage	$V_{EB0}$	5	
Collector Current - Continuous	$I_c$	1	A
Collector Current - Pulse	$I_{cP}$	2	
Collector Power Dissipation	$P_c$	0.5	W
		2	
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

■ Electrical Characteristics  $T_a = 25^{\circ}C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_c= 100 \mu A, I_E= 0$	120			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_c= 1 mA, I_B= 0$	80			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E= 100 \mu A, I_c= 0$	5			
Collector-base cut-off current	$I_{CB0}$	$V_{CB}= 100 V, I_E= 0$			1	$\mu A$
Emitter cut-off current	$I_{EB0}$	$V_{EB}= 4V, I_c=0$			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=500 mA, I_B=50 mA$		0.15	0.4	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c=500 mA, I_B=50 mA$			1.2	
DC current gain	$h_{FE}$	$V_{CE}= 3V, I_c= 500 mA$	120		390	
Collector Output capacitance	$C_{ob}$	$V_{CB}= 10V, I_E= 0, f=1MHz$		20		pF
Transition frequency	$f_T$	$V_{CE}= 10V, I_E= -50mA, f=100MHz$		100		MHz

■ Classification of  $h_{FE}$

Type	2SD1898-Q	2SD1898-R
Range	120-270	180-390
Marking	DF Q*	DF R*

■ Typical Characteristics

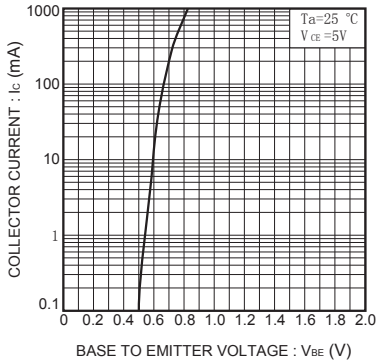


Fig.1 Grounded emitter propagation characteristics

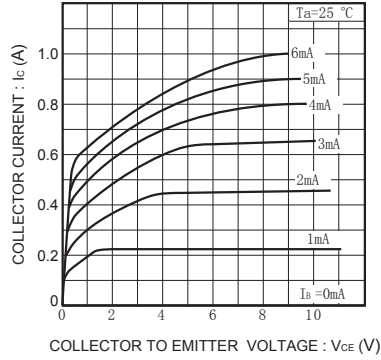


Fig.2 Grounded emitter output characteristics

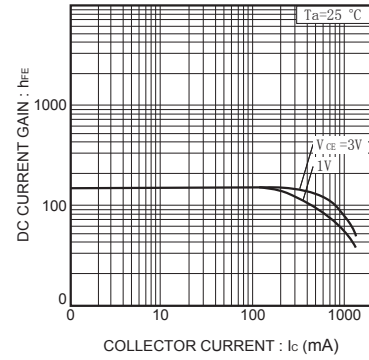


Fig.3 DC current gain vs. collector current

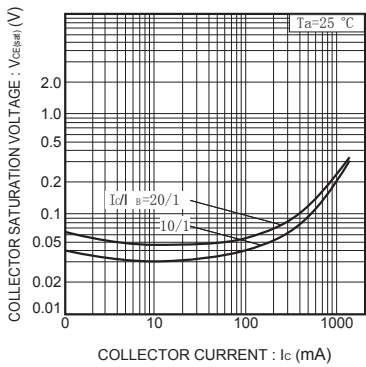


Fig.4 Collector-emitter saturation voltage vs. collector current

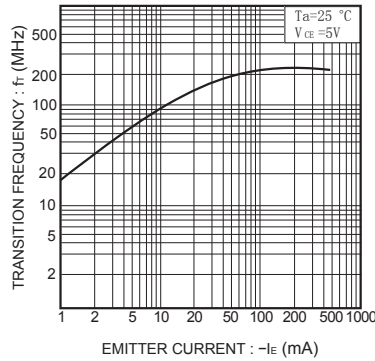


Fig.5 Gain bandwidth product vs. emitter current

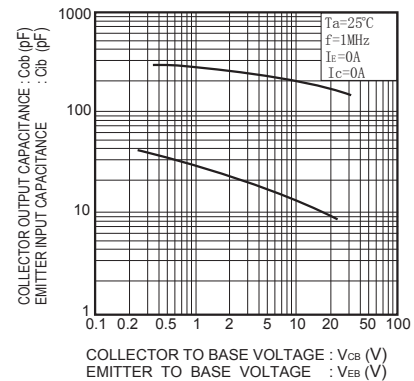


Fig.6 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

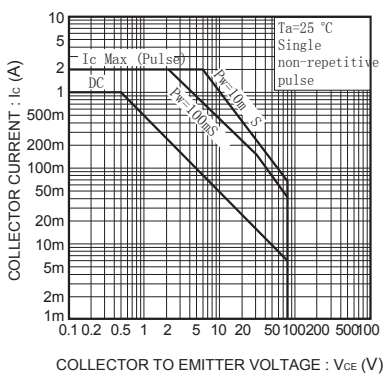
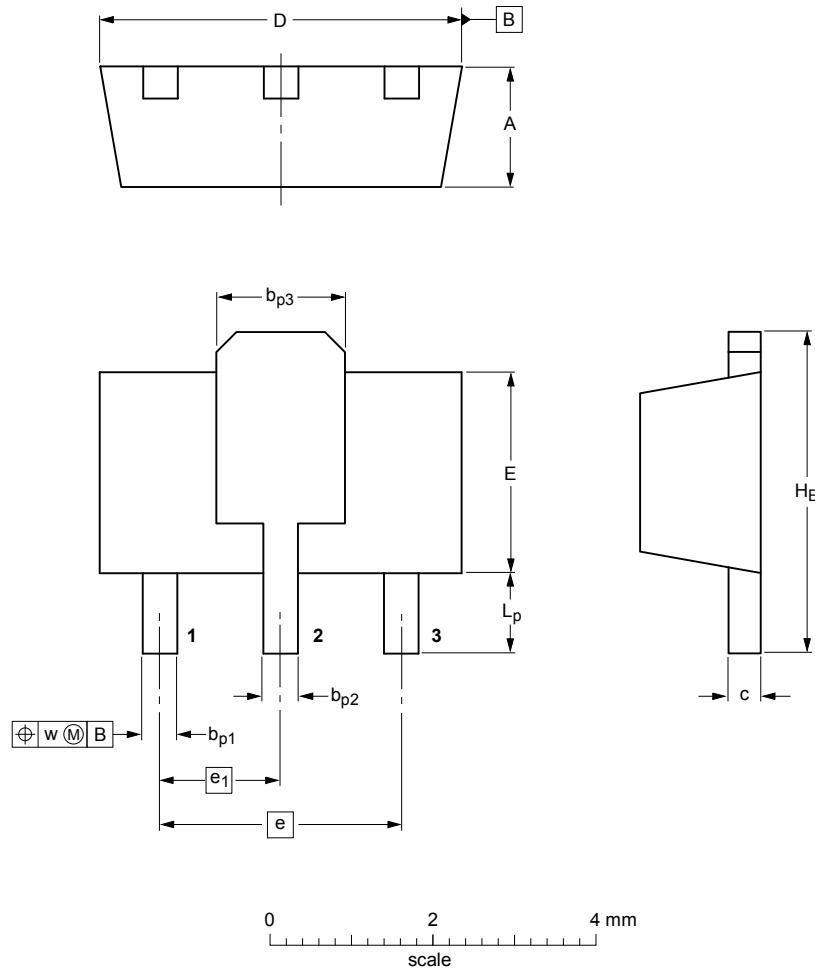


Fig.7 Safe operating area (2SD1898)



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	$b_{p1}$	$b_{p2}$	$b_{p3}$	c	D	E	e	$e_1$	$H_E$	$L_p$	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13

**Summary of Packing Options**

Package	Package Description	Packing Quantity	Industry Standard
SOT-89	Tape/Reel, 7" reel	1000	EIA-481-1