

SOT-89 Plastic-Encapsulate Transistors

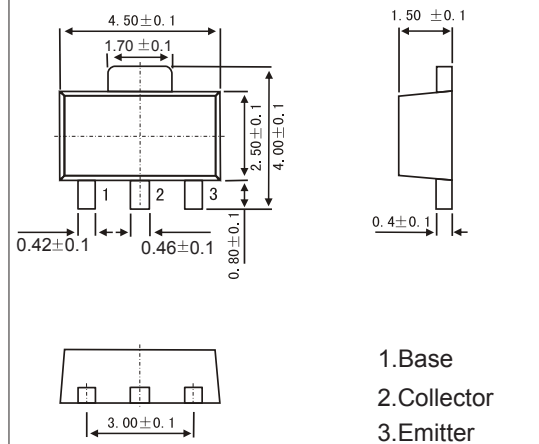
Features

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

MECHANICAL DATA

- Case style: SOT-89 molded plastic
- Mounting position: any

SOT-89



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	120	V
Collector - Emitter Voltage	V_{CEO}	80	
Emitter - Base Voltage	V_{EBO}	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	°C
Storage Temperature Range	T_{stg}	-55 to 150	

PACKAGE INFORMATION

Device	Package	Shipping
2SD1898	SOT-89	1000/Tape&Reel

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

Classification of h_{FE}

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



RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics

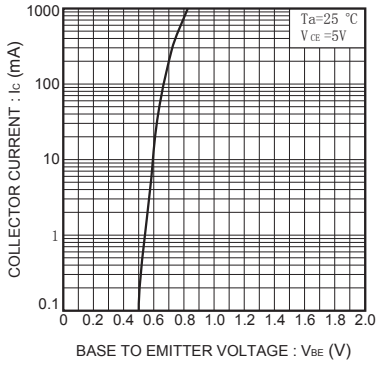


Fig.1 Grounded emitter propagation characteristics

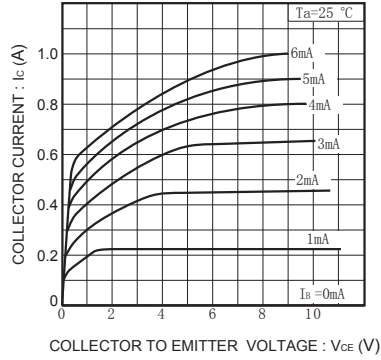


Fig.2 Grounded emitter output characteristics

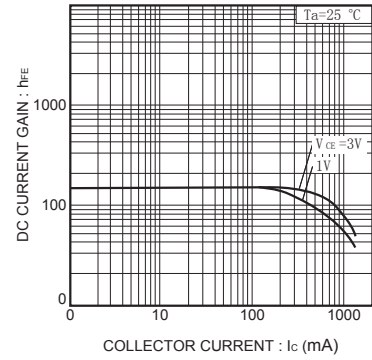


Fig.3 DC current gain vs. collector current

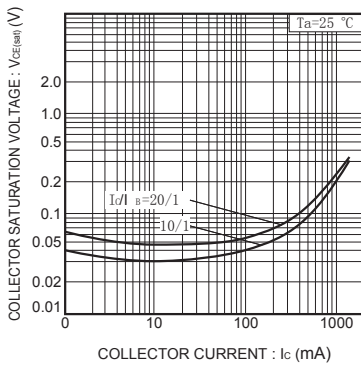


Fig.4 Collector-emitter saturation voltage vs. collector current

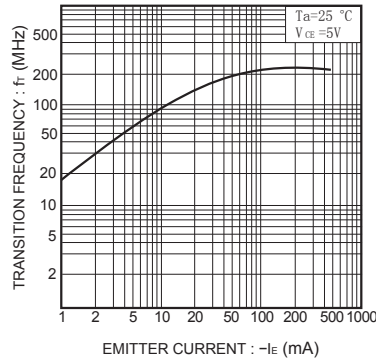


Fig.5 Gain bandwidth product vs. emitter current

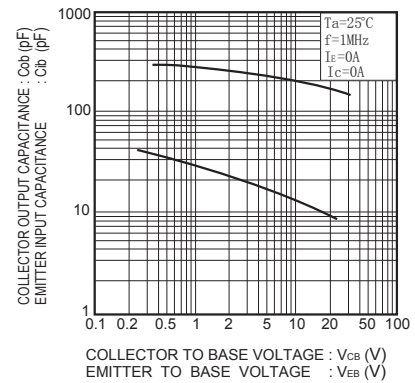


Fig.6 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

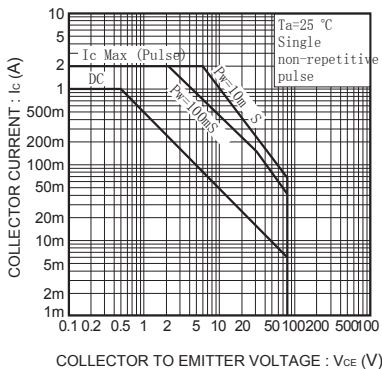


Fig.7 Safe operating area (2SD1898)