

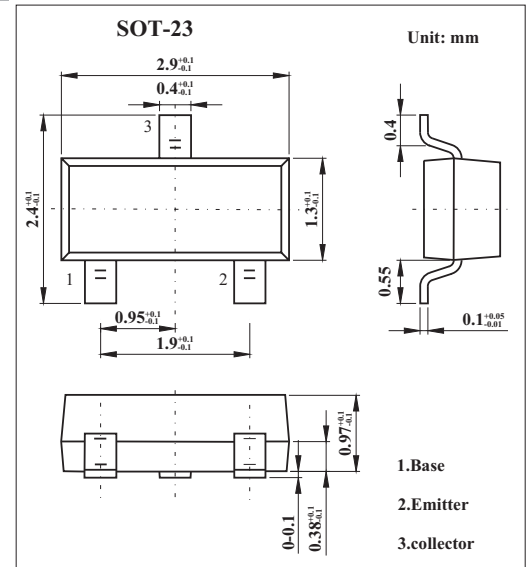
## SOT-23 Plastic-Encapsulate Transistors

### Features

- Low  $V_{CE(sat)}$ ,  $V_{CE(sat)} = 0.2V$  (Typ.)  $I_C / I_B = 0.5A / 50mA$
- High  $V_{CEO}$ ,  $V_{CEO} = 80V$ .
- Power Transistor

### MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	80	V
Collector-emitter voltage	$V_{CEO}$	80	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	0.5	A
Collector power dissipation	$P_C$	0.2	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

### PACKAGE INFORMATION

Device	Package	Shipping
2SD1782	SOT-23	3000/Tape&Reel

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$BV_{CBO}$	$I_C = 50\mu A$	80			V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = 2mA$	80			V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = 50\mu A$	5			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50V$			0.5	$\mu A$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 4V$			0.5	$\mu A$
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C / I_B = 500mA / 50mA$		0.2	0.5	V
DC current transfer ratio	$h_{FE}$	$V_{CE} = 3V, I_C = 100mA$	120		390	
Output capacitance	$f_t$	$V_{CE} = 10V, I_E = -50mA, f = 100MHz$		120		MHz
Transition frequency	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$		7.5		pF

### hFE Classification

Marking	AJ	
	Q	R
hFE	120~270	180~390