

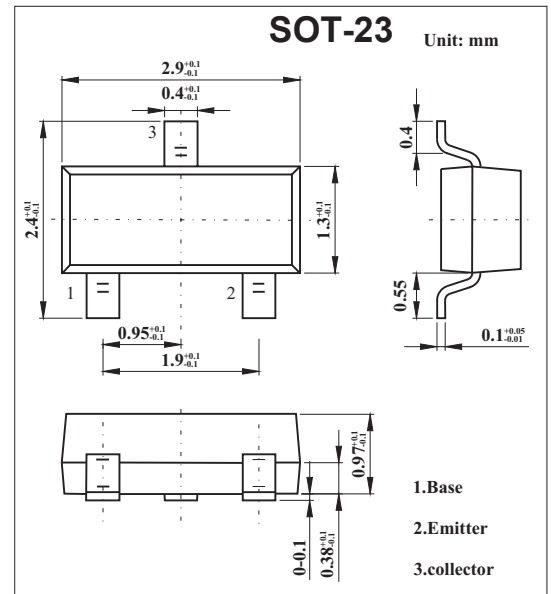
SOT-23 Plastic-Encapsulate Transistors

Features

- Very Low $V_{CE(sat)}$. $V_{CE(sat)} = -0.1V$ (Typ.) $I_C / I_B = 500mA / 50mA$
- High current capacity in compact package.
- Medium 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}	40	V
Collector-emitter voltage	V_{CEO}	32	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	0.8	A
Collector current *	I_{CP}	1.5	
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

PACKAGE INFORMATION

Device	Package	Shipping
2SD1781	SOT-23	3000/Tape&Reel

* Single pulse $P_w=100ms$.

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	$I_C=50\mu A$	40			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=1mA$	32			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=50\mu A$	5			V
Collector cutoff current	I_{CBO}	$V_{CB}=20V$			0.5	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=4V$			0.5	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B=500mA/50mA$		0.1	0.4	V
DC current transfer ratio	h_{FE}	$V_{CE}=3V, I_C=100mA$	120		390	
Output capacitance	f_T	$V_{CE}=5V, I_E=-50mA, f=100MHz$		150		MHz
Transition frequency	C_{ob}	$V_{CB}=10V, I_E=0A, f=1MHz$		15		pF

hFE Classification

Marking	AF	
Rank	Q	R
h_{FE}	120~270	180~390