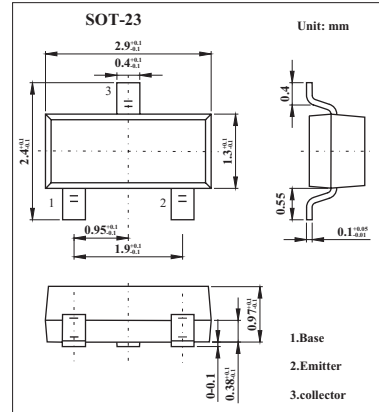


■ Features

- Switching transistors.



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	40	V
Collector-emitter voltage	V _{CEO}	30	V
Emitter-base voltage	V _{EBO}	5	V
Collector current	I _c	200	mA
Power dissipation	P _{tot}	330	mW
Operating and storage temperature range	T _j , T _{stg}	-55 to +150	°C

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A$	5			V
Collector cutoff current	I_{CBO}	$V_{CE}=20V$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V$			50	nA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.3	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$			0.95	V
DC current gain *	h_{FE}	$I_C=2mA, V_{CE}=1V$	50		150	
Current-gain-bandwidth product	f_T	$I_C=10mA, V_{CE}=20V, f=100MHz$	250			MHz
Output capacitance	C_{obo}	$V_{CB}=5V, I_E=0, f=140KHz$			4	pF
Input capacitance	C_{ibo}	$V_{BE}=0.5V, I_C=0, f=140KHz$			8	pF
Noise figure	NF	$V_{CE}=5V, I_C=200\mu A, R_g=2k\Omega$ $f=30Hz$ to $15KHz$ at-3dB points			6	dB
Small signal current transfer	h_{fe}	$I_C=2mA, V_{CE}=1V, f=1KHz$	50	200		
Delay time	t_d	$V_{CC}=3V, I_C=10mA, I_{B1}=1mA$ $V_{BE(off)}=0.5V$			24	ns
Rise time	t_r				13	ns
Storage time	t_s	$V_{CC}=3V, I_C=10mA$ $I_{B1}= I_{B2}=1mA$			125	ns
Fall time	t_f				11	ns

* Pulse test: $t_p \leq 300\mu s$; $d \leq 0.02$.

■ Marking

Marking	ZB
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