

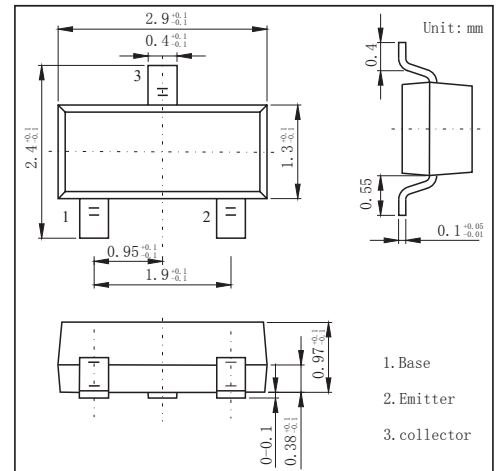
SOT-23 Plastic-Encapsulate Transistors

FEATURES

- Gate Driving MOSFETS and IGBT
- DC-DC converters
- Charging circuit
- Power switches
- NPN Transistors

MECHANICAL DATA

- Case style:TO-92 molded plastic
- Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Base Current	I_B	0.5	A
Collector Current -Continuous	I_C	2.5	A
Total Collector Dissipation	P_C	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	°C

Electrical Specification($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	20			V
Collector-emitter breakdown voltage (note 1)	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=16\text{V}, I_E=0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			100	nA
DC current gain (note 1)	$h_{FE(1)}$	$V_{CE}=2\text{V}, I_C=10\text{mA}$	200			
	$h_{FE(2)}$	$V_{CE}=2\text{V}, I_C=0.2\text{A}$	300			
	$h_{FE(3)}$	$V_{CE}=2\text{V}, I_C=2\text{A}$	200			
	$h_{FE(4)}$	$V_{CE}=2\text{V}, I_C=4\text{A}$	100			
Collector-emitter saturation voltage (note 1)	$V_{CE(sat)1}$	$I_C=0.1\text{A}, I_B=10\text{mA}$			15	mV
	$V_{CE(sat)2}$	$I_C=1\text{A}, I_B=10\text{mA}$			150	mV
	$V_{CE(sat)3}$	$I_C=2.5\text{A}, I_B=50\text{mA}$			200	mV
Base-emitter saturation voltage (note 1)	$V_{BE(sat)}$	$I_C=2.5\text{A}, I_B=50\text{mA}$			1	V
Base-emitter on voltage (note 1)	$V_{BE(on)}$	$I_C=2.5\text{A}, V_{CE}=2\text{V}$			1	V
Output capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$			30	pF
Turn-on time	$t_{(on)}$	$V_{CC}=10\text{V}, I_C=1\text{A}, I_{B1}=-I_{B2}=10\text{mA}$		170		ns
Turn-off time	$t_{(off)}$			400		ns
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100			MHz

Notes : Pulse test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2.0\%$.

RATINGS AND CHARACTERISTIC CURVES
