

### MMST4401 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM}: 0.2 \text{ W (Tamb=25°C)}$$

Collector current

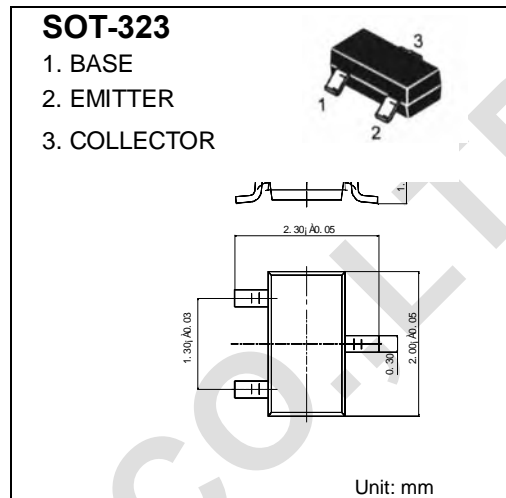
$$I_{CM}: 0.6 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 60 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55°C \text{ to } +150°C$$



#### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=35\text{V}, I_E=0$		0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=35\text{V}, I_B=0$		0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$		0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=150\text{mA}$	100	300	
	$h_{FE(2)}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.95	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=20\text{mA}$ $f=100\text{MHz}$	250		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0$ $f=1\text{MHz}$		6.5	pF
Delay time	$t_d$	$V_{CC}=30\text{V}, V_{BE}=2\text{V}$ $I_C=150\text{mA}, I_{B1}=15\text{mA}$		15	nS
Rise time	$t_r$			20	nS
Storage time	$t_s$	$V_{CC}=30\text{V}, I_C=150\text{mA}$ $I_{B1}=I_{B2}=15\text{mA}$		225	nS
Fall time	$t_f$			30	nS

Marking: K3X