



## Features

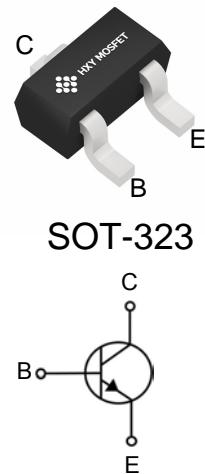
- Collector Current Capability  $I_C=0.2A$
- Collector Emitter Voltage  $V_{CEO}=40V$

## Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
PMST3904	SOT-323	K2N	3000

## Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	60	V
Collector - Emitter Voltage	$V_{CEO}$	40	
Emitter - Base Voltage	$V_{EBO}$	5	
Collector Current - Continuous	$I_C$	200	mA
Collector Power Dissipation	$P_C$	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{stg}$	-55 to 150	



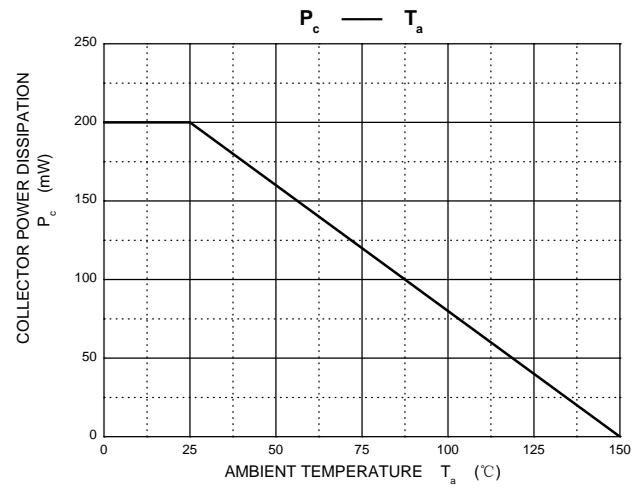
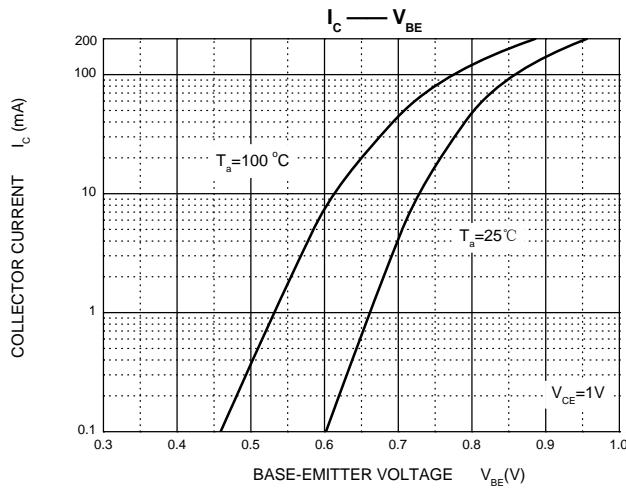
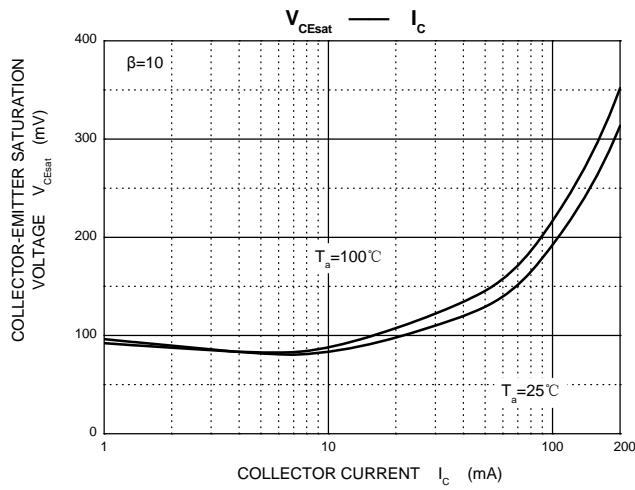
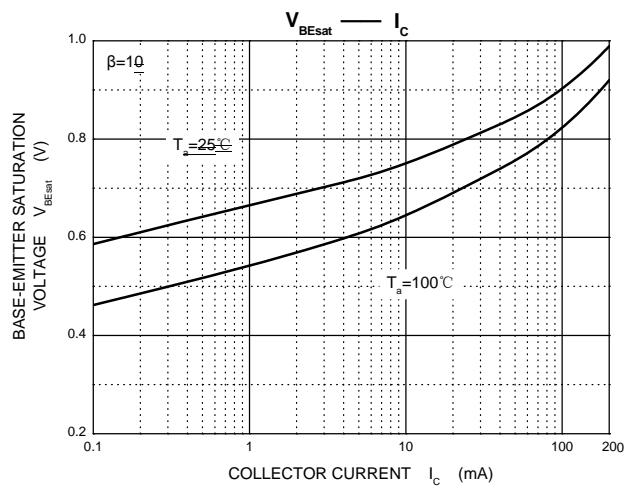
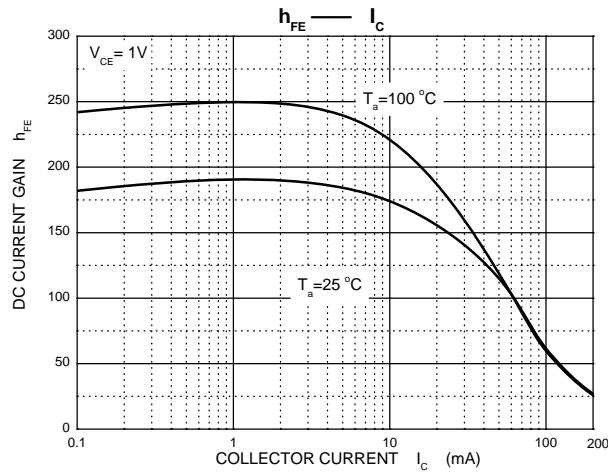
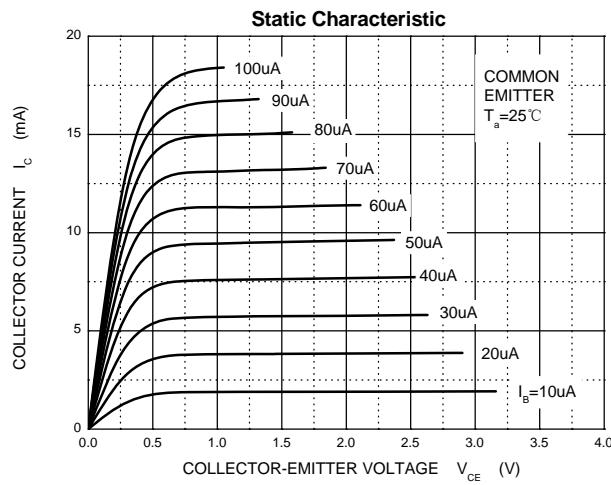
## Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C= 100 \mu A, I_E= 0$ (Note.1)	60			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C= 1 mA, I_B= 0$ (Note.1)	40			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E= 100 \mu A, I_C= 0$ (Note.1)	5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB}= 60 V, I_E= 0$ (Note.1)			60	nA
Collector- emitter cut-off current	$I_{CEO}$	$V_{CE}= 40 V, I_E= 0$ (Note.1)			700	
Collector- emitter cut-off current	$I_{CEX}$	$V_{CE}= 30 V, V_{BE(off)}= 3V$			50	
Emitter cut-off current	$I_{EBO}$	$V_{EB}= 5V, I_C=0$			100	
Collector-emitter saturation voltage (Note.1)	$V_{CE(sat)}$	$I_C=10 mA, I_B=1 mA$			0.25	V
		$I_C=50 mA, I_B=5 mA$			0.3	
Base - emitter saturation voltage (Note.1)	$V_{BE(sat)}$	$I_C=10 mA, I_B=1 mA$			0.85	
		$I_C=50 mA, I_B=5 mA$			0.95	
DC current gain (Note.1)	$h_{FE(1)}$	$V_{CE}= 1V, I_C= 100 \mu A$	40			
	$h_{FE(2)}$	$V_{CE}= 1V, I_C= 1 mA$	70			
	$h_{FE(3)}$	$V_{CE}= 1V, I_C= 10 mA$	100		300	
	$h_{FE(4)}$	$V_{CE}= 1V, I_C= 50 mA$	60			
Delay time	$t_d$	$V_{CC}=3V, V_{BE(off)}=0.5V$ $I_C=10mA, I_B1=1mA$			35	nS
Rise time	$t_r$				35	
Storage time	$t_s$	$V_{CC}=3V, I_C=10mA, I_B1= I_B2=1mA$			225	
Fall time	$t_f$				75	
Collector input capacitance	$C_{ib}$	$V_{EB}= 0.5V, I_E= 0, f=1MHz$			8	pF
Collector output capacitance	$C_{ob}$	$V_{CB}= 5V, I_E= 0, f=1MHz$			4	
Transition frequency	$f_T$	$V_{CE}= 20V, I_C= 10mA, f=100MHz$	300			MHz

Note.1: Pulse test: pulse width  $\leq 300\mu s$  duty cycle  $\leq 2.0\%$ .

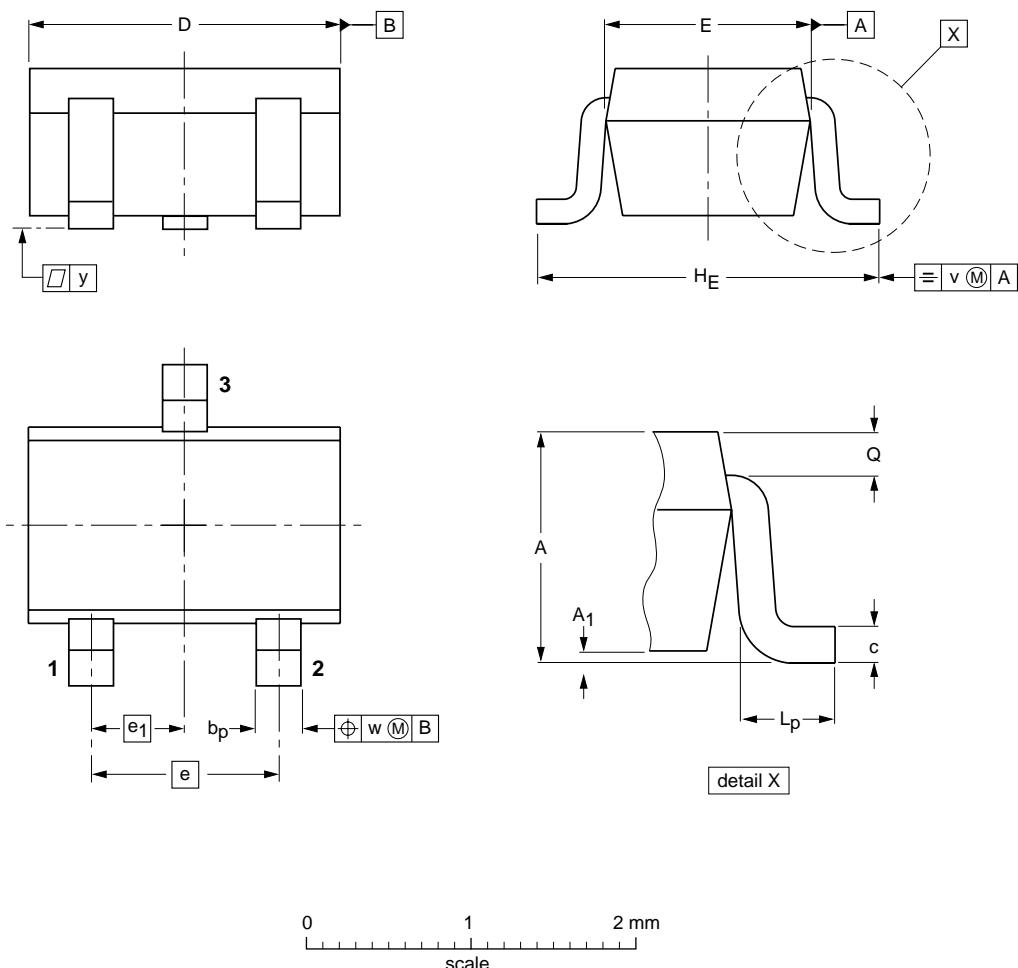


## Typical Characteristics





### SOT-323 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

UNIT	A	$A_1$ max	$b_p$	c	D	E	e	$e_1$	$H_E$	$L_p$	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2



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