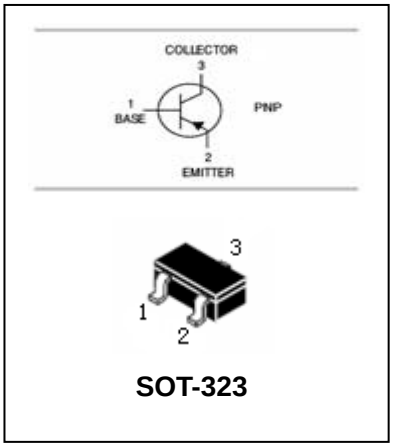
PNP Silicon Epitaxial Planar Transistor **MMST4403**

FEATURES

- Complementary NPN type available (MMST4401).
- Epitaxial planar die construction.
- Also available in lead free version.

Lead-free



SOT-323

APPLICATIONS

- General purpose application and switching application.

ORDERING INFORMATION

Type No.	Marking	Package Code
MMST4403	K3T	SOT-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C	Collector Dissipation	200	mW
$R_{\theta JA}$	Thermal resistance ,Junction to ambient	625	℃/W
T_j, T_{stg}	Junction and Storage Temperature	-55~150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA,I_C=0	-5			V
Collector cut-off current	I_{CEX}	V_{CE}=-35V,$V_{EB(OFF)}$=-0.4V			-0.1	μA
Base cut-off current	I_{BL}	V_{CE}=-35V,$V_{EB(OFF)}$=-0.4V			-0.1	μA
DC current gain	h_{FE}	V_{CE}=-1V,I_C=-0.1mA V_{CE}=-1V,I_C=-1.0mA V_{CE}=-1V,I_C=-10mA V_{CE}=-2V,I_C=-150mA V_{CE}=-2V,I_C=500mA	30 60 100 100 20		 300 	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-150mA, I_B=-15mA I_C=-500mA, I_B=-50mA			-0.4 -0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-150mA, I_B=-15mA I_C=-500mA, I_B=-50mA			-0.95 -1.3	V
Transition frequency	f_T	V_{CE}=-10V,I_C= -1.0mA, f=1.0kHz	200			MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz			8.5	pF
Delay time	t_d	V_{CC}=-30V,$V_{BE(off)}$=-2V, I_C=-150mA,I_{B1}=-15mA			15	nS
Rise time	t_r				20	nS
Storage time	t_s	V_{CC}=-30V,I_C=-150mA, I_{B1}=I_{B2}=-15mA			225	nS
Fall time	t_f				30	nS

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

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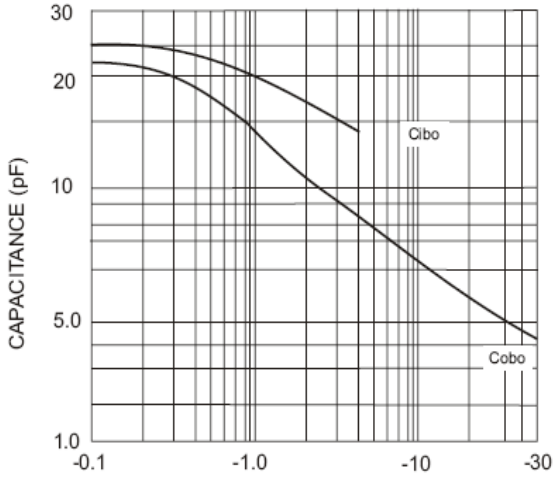

Fig. 1 Typical Capacitance

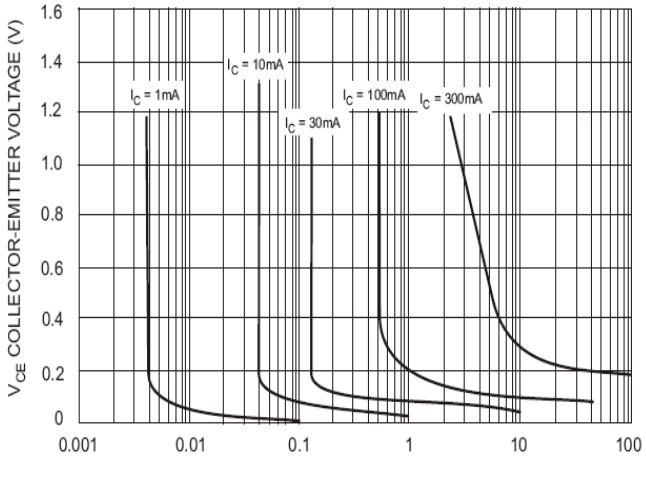

Fig. 2 Typical Collector Saturation Region

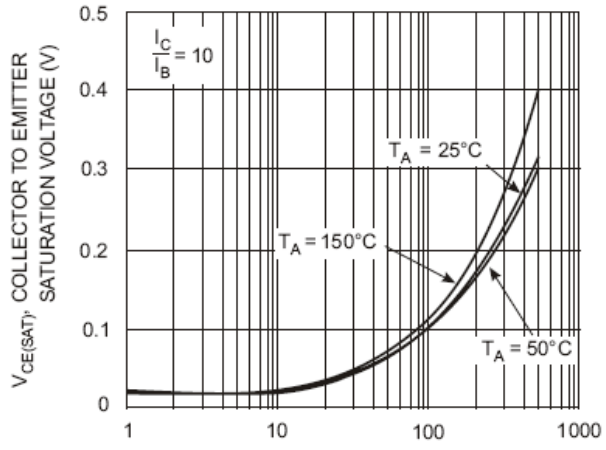

Fig. 3 Collector Emitter Saturation Voltage vs. Collector Current

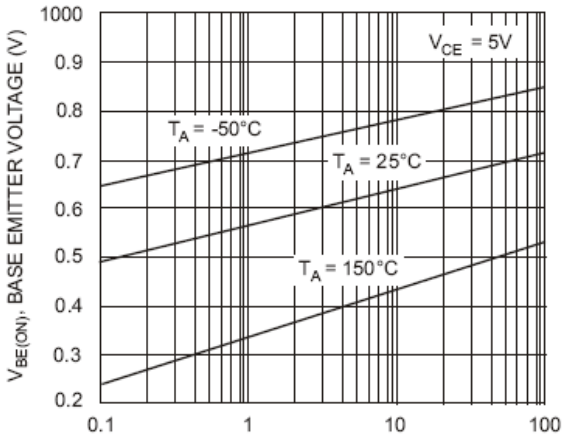

Fig. 4 Base-Emitter Voltage vs. Collector Current

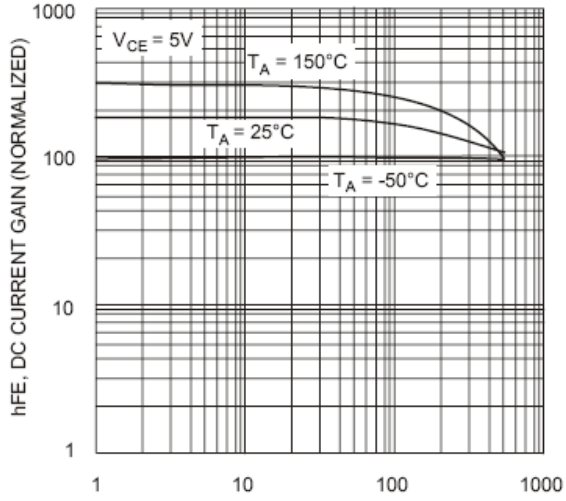

Fig. 5 DC Current Gain vs. Collector Current

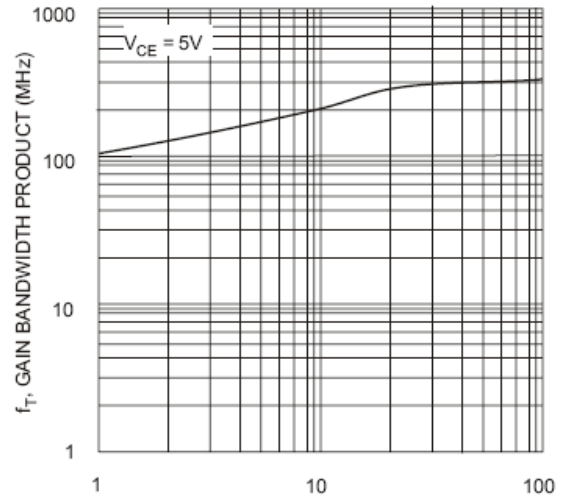

Fig. 6 Gain Bandwidth Product vs. Collector Current

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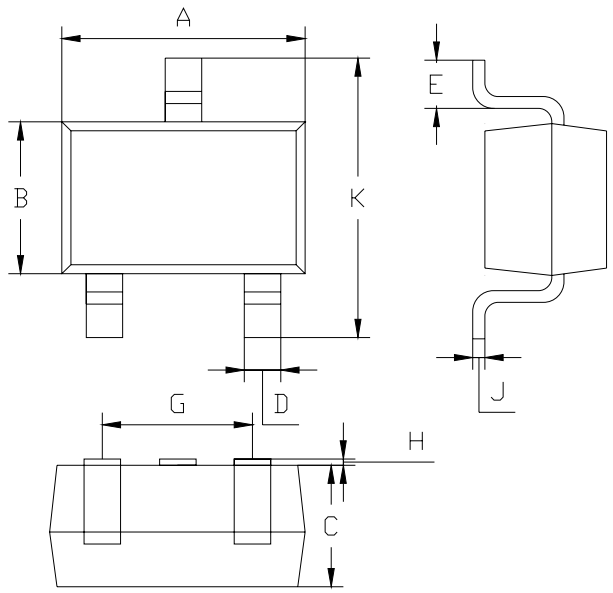
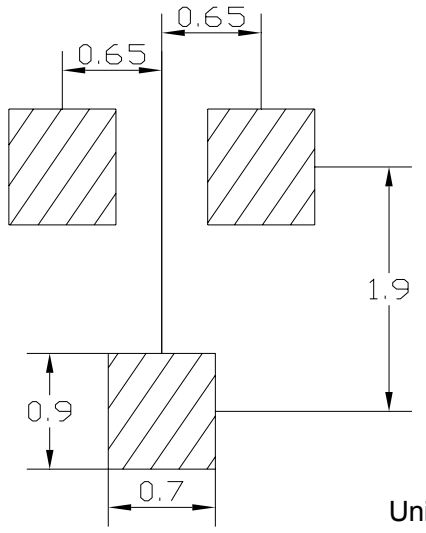
PACKAGE OUTLINE

Plastic surface mounted package SOT-323



SOT-323		
Dim	Min	Max
A	1.8	2.2
B	1.15	1.35
C	1.0Typical	
D	0.15	0.35
E	0.25	0.40
G	1.2	1.4
H	0.02	0.1
J	0.1Typical	
K	2.1	2.3
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
MMST4403	SOT-323	3000/Tape&Reel