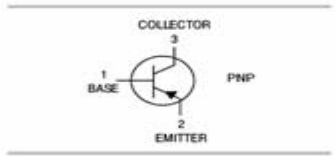
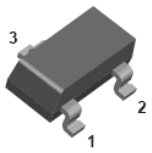
NPN Silicon Epitaxial Planar Transistor **M28S**

FEATURES

- Excellent H_{FE} Linearity.
- High DC current gain.

Lead-free





SOT-23

APPLICATIONS

- General purpose application, switching application.

ORDERING INFORMATION

Type No.	Marking	Package Code
M28S	28S	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	1000	mA
P_C	Collector Power Dissipation	200	mW
T_j, T_{stg}	Junction and Storage Temperature	-55~150	℃

NPN Silicon Epitaxial Planar Transistor **M28S**

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	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=35V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=1V,I_C=1mA V_{CE}=1V,I_C=0.1A V_{CE}=1V,I_C=0.3A V_{CE}=1V,I_C=0.5A	290 300 300 300		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=600mA, I_B=20mA			0.55	V
Transition frequency	f_T	V_{CE}=10V, I_C=50mA	100			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz		9		pF

CLASSIFICATION OF h_{FE2}

Rank	B	C	D
Range	300-550	500-700	650-1000

NPN Silicon Epitaxial Planar Transistor **M28S**

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

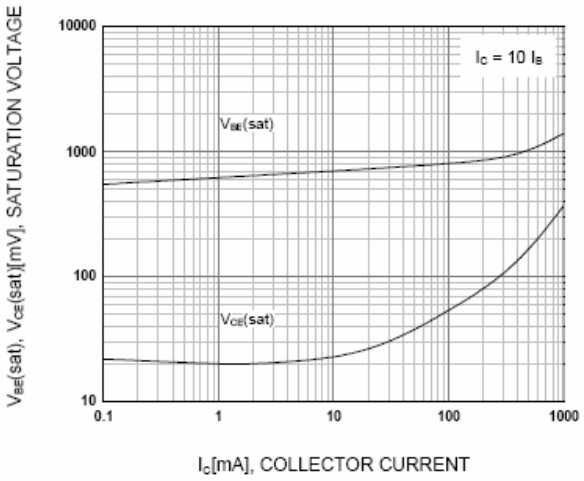


Figure 1. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

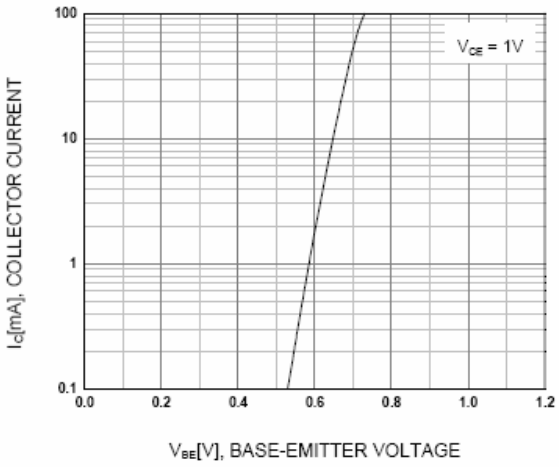


Figure 2. Base-Emitter On Voltage

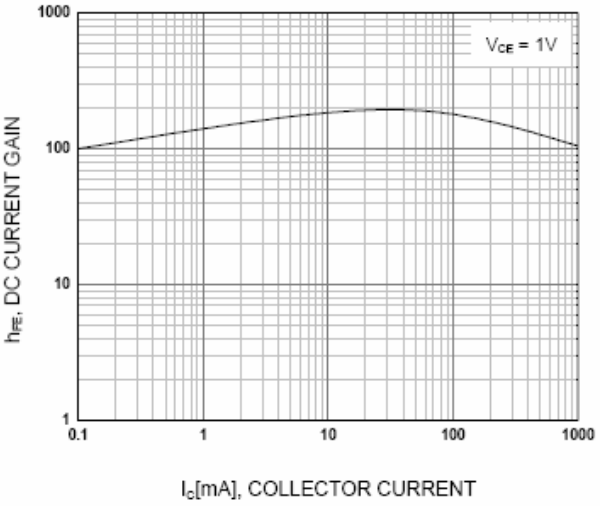
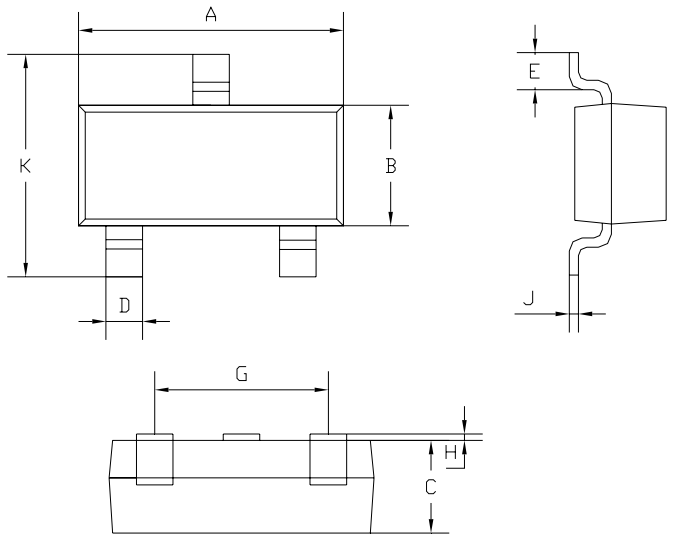


Figure 3. DC current Gain

NPN Silicon Epitaxial Planar Transistor **M28S**

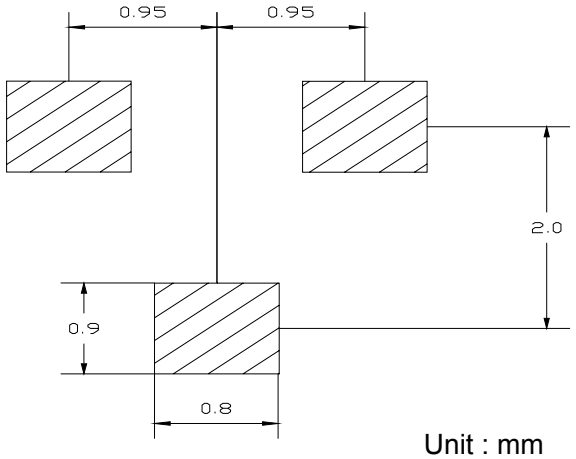
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
M28S	SOT-23	3000/Tape&Reel