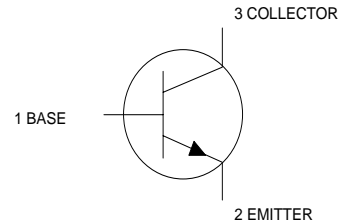


»Features

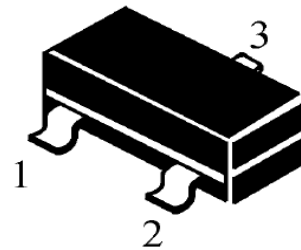
$V_{CE} = 40V$   
 $I_C = 0.2A$   
 $f_T = 300MHz @ V_{CE}=20V, I_C=10mA, f=100MHz$

»Pin Configurations



»General Description

- As complementary type the PNP transistor MMBT3906 is recommended
- Epitaxial planar die constructio
- SOT-23 Plastic Package.



»Absolute Maximum Ratings @ $T_A=25^{\circ}C$  unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	200	mA
$P_C$	Total Device Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	625	$^{\circ}C/W$
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature	-55 to +150	$^{\circ}C$

**»Electrical Characteristics @ $T_A=25^{\circ}\text{C}$  unless otherwise noted**

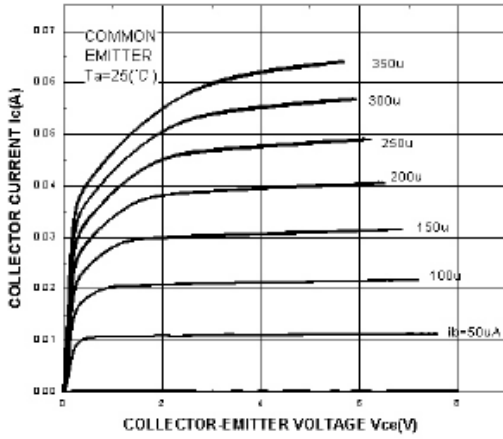
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{CBO}$	$I_C=10\mu\text{A}, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C=1\text{mA}, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60\text{V}, I_E=0$		0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEX}$	$V_{CE}=30\text{V}, V_{BE(off)}=3\text{V}$		50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=10\text{mA}$	100	400	
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=50\text{mA}$	60		
	$h_{FE(3)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$		0.95	V
Transition frequency	$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	300		MHz
Delay Time	$t_d$	$V_{CC}=3\text{V}, V_{BE}=-0.5\text{V}$		35	nS
Rise Time	$t_r$	$I_C=10\text{mA}, I_{B1}=-I_{B2}=1.0\text{mA}$		35	nS
Storage Time	$t_s$	$V_{CC}=3\text{V}, I_C=10\text{mA},$		200	nS
Fall Time	$t_f$	$I_{B1}=-I_{B2}=1\text{mA}$		50	nS

**CLASSIFICATION OF  $h_{FE(1)}$** 

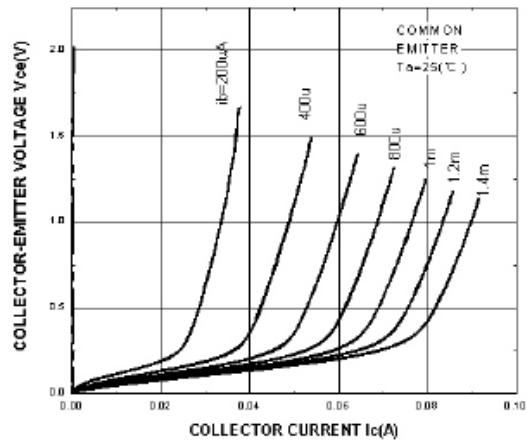
Range	
	100-300

»Typical Performance Characteristics (( $T_J = 25\text{ }^\circ\text{C}$ , unless otherwise noted))

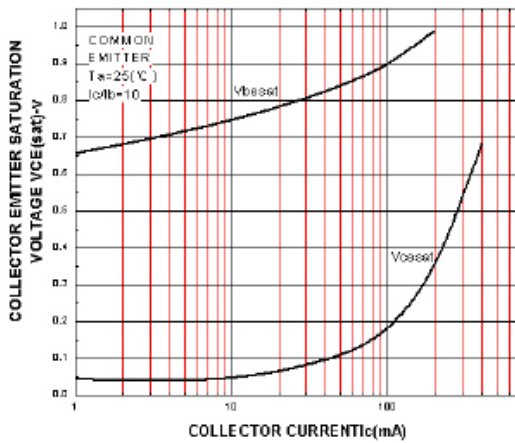
Ic-Vce



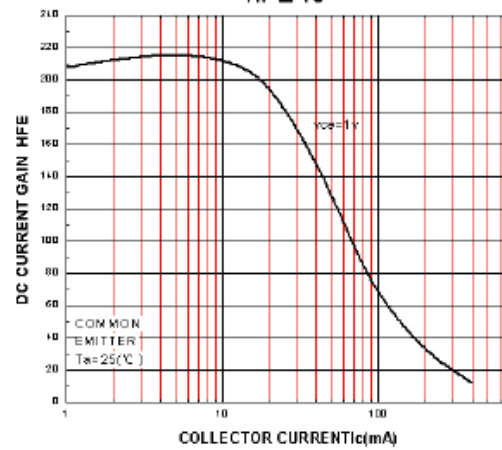
Vce-Ic



Vcesat-Ic  
Vbesat-Ic

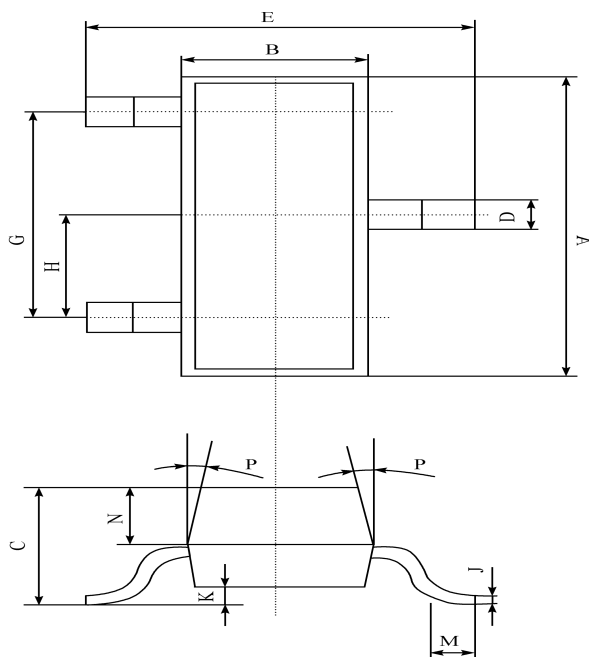


hFE-Ic



»Package Information

SOT-23



A	2.90 ± 0.10
B	1.30 ± 0.10
C	1.00 ± 0.10
D	0.40 ± 0.10
E	2.40 ± 0.20
G	1.90 ± 0.10
H	0.95 ± 0.05
J	0.13 ± 0.05
K	0.00-0.10
M	≥ 0.2
N	0.60 ± 0.10
P	7 ± 2°

»Ordering information

Order code	Package	Marking	Base qty	Delivery mode
MMBT3904	SOT-23	1AM	3K	Tape and reel

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