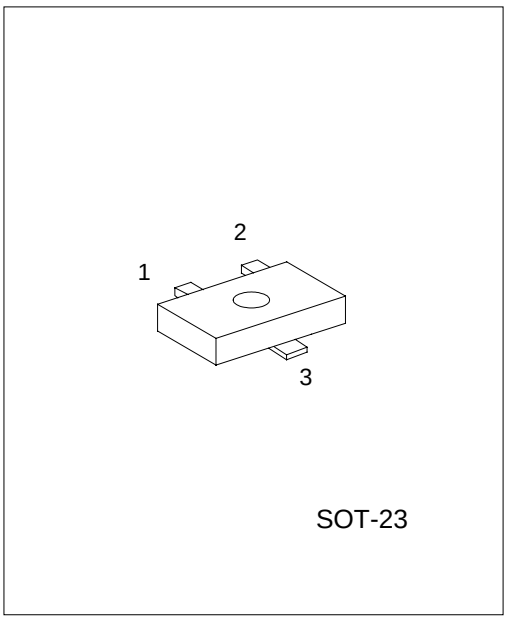
MMBT5401

PNP EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE SWITCHING TRANSISTOR

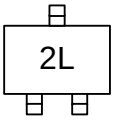


*Pb-free plating product number:MMBT5401L

■ FEATURES

*Collector-Emitter Voltage: V_{CEO}=-150V
*Collector Dissipation: Pc(max)=350mW
*High current gain

■ MARKING



■ PIN CONFIGURATION

PIN NO.	PIN NAME
1	Emitter
2	Base
3	Collector

■ ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead free		
MMBT5401-AE3-R	MMBT5401L-AE3-R	SOT-23	Tape Reel

■ ABSOLUATE MAXIUM RATINGS (Ta = 25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	V_{CBO}	-160	V
Collector -Emitter Voltage	V_{CEO}	-150	V
Emitter -Base Voltage	V_{EBO}	-5	V
DC Collector Current	I_C	-600	mA
Power Dissipation	P_D	350	mW
Operating Temperature	T_J	+150	℃
Storage Temperature	T_{STG}	-40 ~ +150	℃

■ ELECTRICAL CHARACTERISTICS (Ta= 25℃, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	V_{CBO}	I_C=-100μA, I_E=0	-160			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=-1mA, I_B=0	-150			V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=-10μA, I_C=0	-6			V
Collector Cut-off Current	I_{CBO}	V_{CB}=-120V, I_E=0			-50	nA
Emitter Cut-off Current	I_{EBO}	V_{BE}=-3V, Ic=0			-50	nA
DC Current Gain(note)	h_{FE}	V_{CE}=-5V, Ic=-1mA V_{CE}=-5V, Ic=-10mA V_{CE}=-5V, Ic=-50mA	80 80 80		400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA I_C=50mA, I_B=5mA			-0.2 -0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA I_C=-50mA, I_B=-5mA			1 1	V
Current Gain Bandwidth Product	f_T	V_{CE}=-10V, Ic=-10mA, f=100MHz	100		400	MHz
Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz			6.0	pF
Noise Figure	N_F	I_C=-0.25mA, V_{CE}=-5V R_S=1kΩ, f=10Hz ~ 15.7kHz			8	dB

Note: Pulse test: PW<300μs, Duty Cycle<2%

■ CLASSIFICATION OF hFE

RANK	A	B	C
RANGE	80-170	150-240	200-400

■ TYPICAL CHARACTERICS

Fig.1 Collector output Capacitance

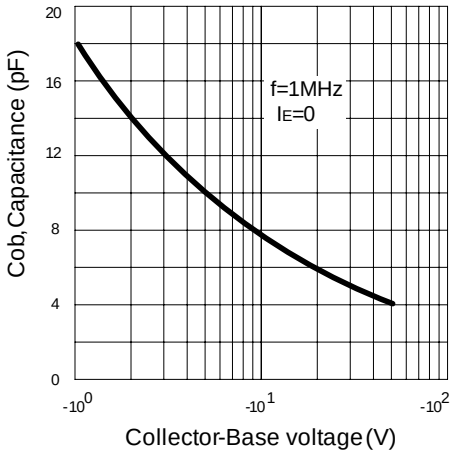


Fig.2 DC current Gain

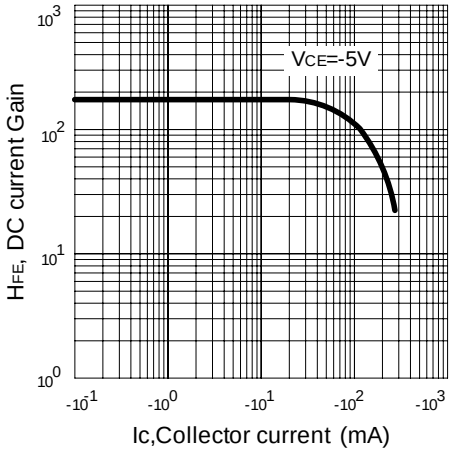


Fig.3 Base-Emitter on Voltage

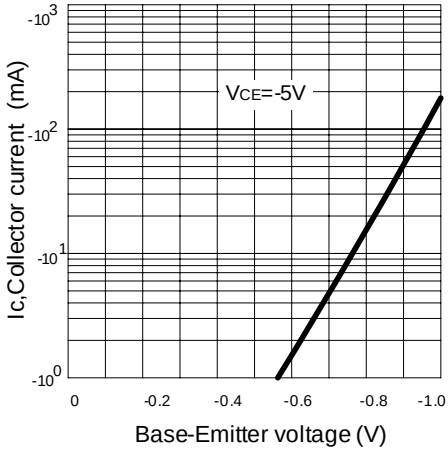


Fig.4 Saturation voltage

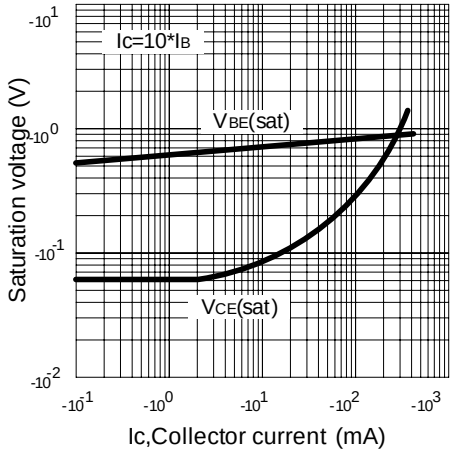


Fig.5 Current gain -bandwidth product