



Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Collector-Emitter Voltage: $B_{V_{CE0}} = -50V$
- Collector current up to 150mA
- High H_{fe} linearity
- Complement to MMBT1815
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: BA
- Suffix "HF" is used to distinguish halogen free products from traditional halogen containing products

Maximum Ratings

- Junction Temperature: $-55^{\circ}C \sim 125^{\circ}C$
- Storage Temperature: $-55^{\circ}C$ to $+150^{\circ}C$

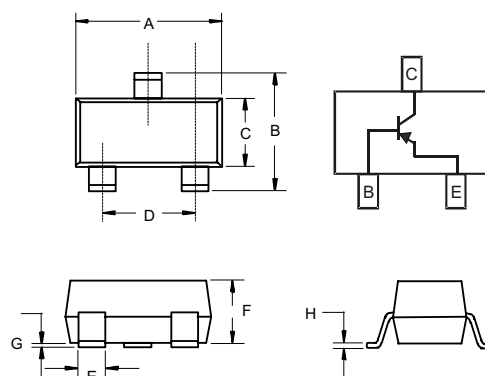
ABSOLUTE MAXIMUM RATINGS $T_a = 25^{\circ}C$ Unless Otherwise Specified

PARAMETERS	SYMBOL	VALUE	UNIT
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector dissipation	P_C	250	mW
Collector current	I_C	-150	mA
Base Current	I_B	-50	mA

MMBT1015-L
MMBT1015-H

PNP EPITAXIAL
SILICON TRANSISTOR

SOT-23



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.106	.122	2.70	3.10	
B	.093	.108	2.35	2.75	
C	.067	.083	1.70	2.10	
D	.047	.059	1.20	1.50	
E	.014	.022	0.35	0.55	
F	.041	.053	1.05	1.35	
G	-----	.004	-----	.10	
H	.003	.008	.08	.20	

ELECTRICAL CHARACTERISTICS $T_a=25^\circ\text{C}$ Unless Otherwise Specified

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV_{CBO}	$I_c=-100\mu\text{A}, I_E=0$	-50			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_c=-10\text{mA}, I_B=0$	-50			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=-10\mu\text{A}, I_c=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-50\text{V}, I_E=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_c=0$			-100	nA
DC current gain(note)	h_{FE1}	$V_{CE}=-6\text{V}, I_c=-2\text{mA}$	70		400	
	h_{FE2}	$V_{CE}=-6\text{V}, I_c=-150\text{mA}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=-100\text{mA}, I_B=-10\text{mA}$		-0.1	-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c=-100\text{mA}, I_B=-10\text{mA}$			-1.1	V
Current gain bandwidth product	f_T	$V_{CE}=-10\text{V}, I_c=-1\text{mA}$	80			MHz
Output capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		4.0	7.0	pF

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Noise Figure	NF	$I_c=-0.1\text{mA}, V_{CE}=-6\text{V}$ $R_G=1\text{k}\Omega, f=100\text{Hz}$		0.5	6	dB

CLASSIFICATION OF h_{FE1}

RANK	L	H
RANGE	130-200	200-400

TYPICAL CHARACTERISTIC CURVES

Fig.1 Static characteristics

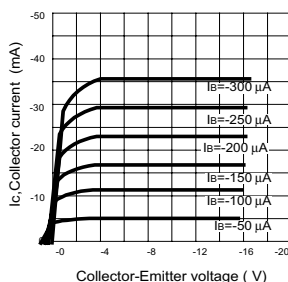


Fig.2 DC current Gain

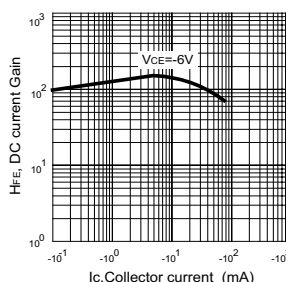


Fig.3 Base-Emitter on Voltage

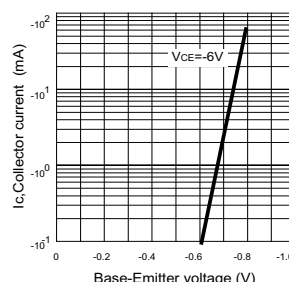


Fig.4 Saturation voltage

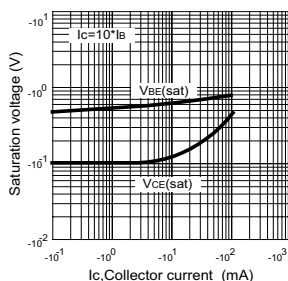


Fig.5 Current gain-bandwidth product

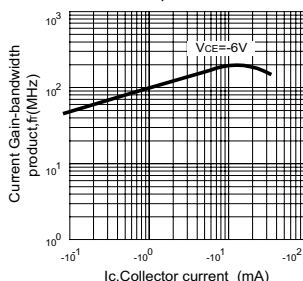
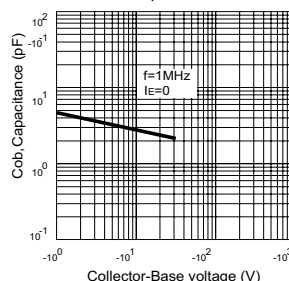


Fig.6 Collector output Capacitance



Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs / Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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