

M·C·C

Micro Commercial Components



Micro Commercial Components
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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: $V_{CEO}=-50V$
- Collector current up to 150mA
- High Hfe 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: $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- Storage Temperature: -55°C to $+150^{\circ}\text{C}$

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

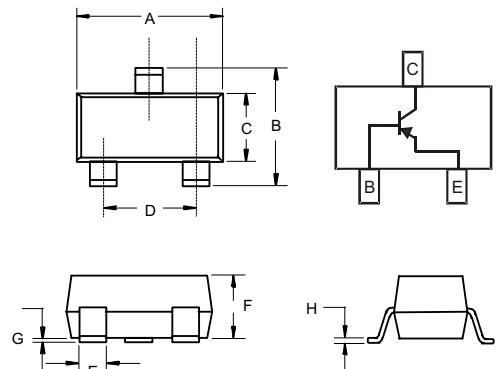
PARAMETERS	SYMBOL	VALUE	UNIT
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector dissipation	P_c	250	mW
Collector current	I_c	-150	mA
Base Current	I_b	-50	mA

MMBT1015-L

MMBT1015-H

PNP EPITAXIAL SILICON TRANSISTOR

SOT-23



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	

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ELECTRICAL CHARACTERISTICS Ta=25 °C Unless Otherwise Specified

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BVCBO	$I_C=-100\mu A, I_E=0$	-50			V
Collector-emitter breakdown voltage	BVCEO	$I_C=-10mA, I_B=0$	-50			V
Emitter-base breakdown voltage	BVEBO	$I_E=-10\mu A, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-50V, I_E=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5V, I_C=0$			-100	nA
DC current gain(note)	h_{FE1} h_{FE2}	$V_{CE}=-6V, I_C=2mA$ $V_{CE}=-6V, I_C=150mA$	70 25		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-10mA$		-0.1	-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-100mA, I_B=-10mA$			-1.1	V
Current gain bandwidth product	f_T	$V_{CE}=-10V, I_C=1mA$	80			MHz
Output capacitance	C_{OB}	$V_{CB}=-10V, I_E=0, f=1MHz$		4.0	7.0	pF
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Noise Figure	NF	$I_C=-0.1mA, V_{CE}=-6V$ $R_G=1k\Omega, f=100Hz$		0.5	6	dB

CLASSIFICATION OF h_{FE1}

RANK	L	H
RANGE	130-200	200-400

TYPICAL CHARACTERISTIC CURVES

Fig.1 Static characteristics

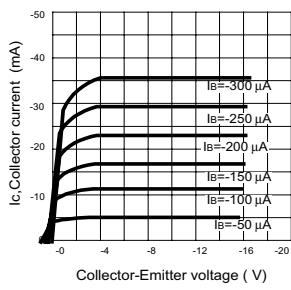


Fig.2 DC current Gain

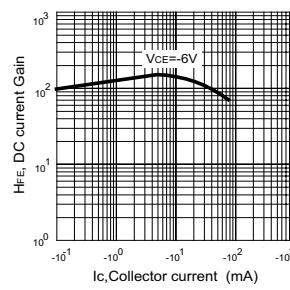


Fig.3 Base-Emitter on Voltage

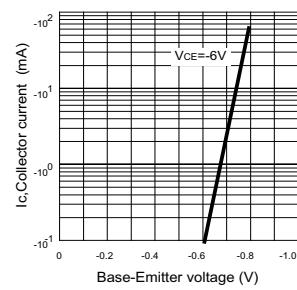


Fig.4 Saturation voltage

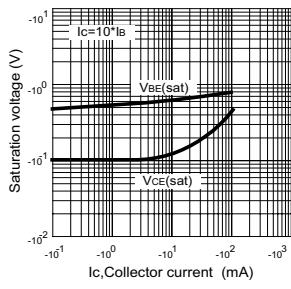


Fig.5 Current gain-bandwidth product

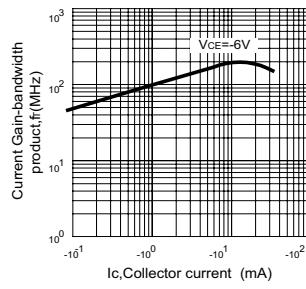
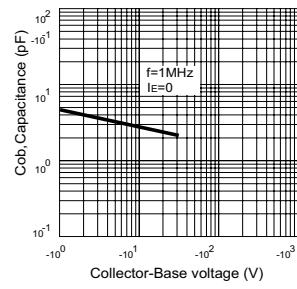


Fig.6 Collector output Capacitance





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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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