



MMBT9015

PNP Silicon Transistors

Features

- High Total Power Dissipation. ($P_C=0.45W$)
- High h_{FE} and Good Linearity

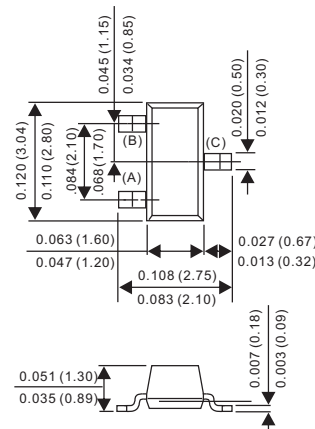
SOT23

RoHS
COMPLIANT



MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.1	A
P_D	Collector Power Dissipation	450	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	277.7	$^{\circ}C / W$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}C$



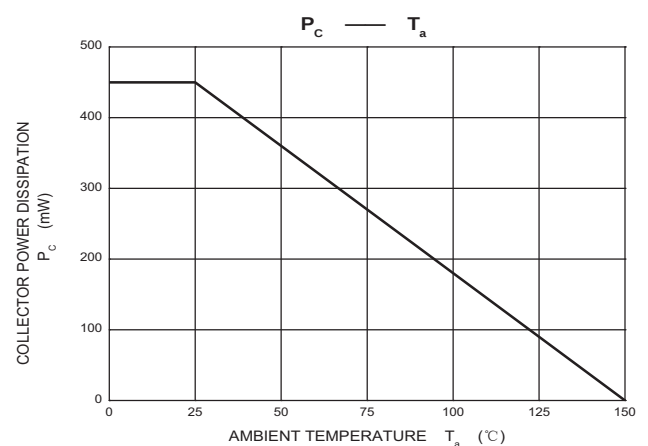
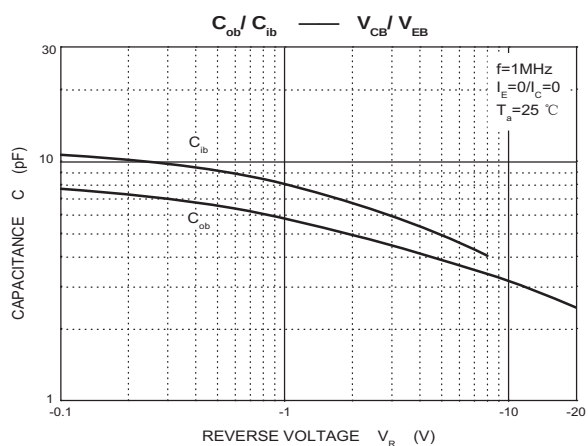
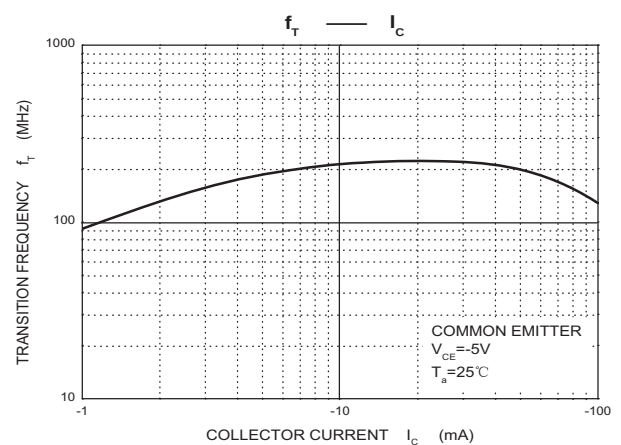
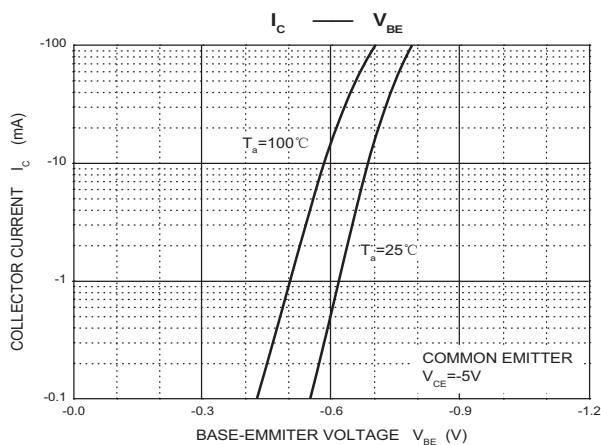
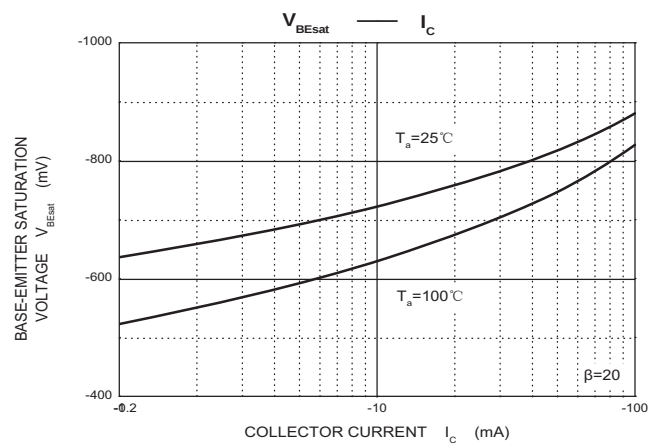
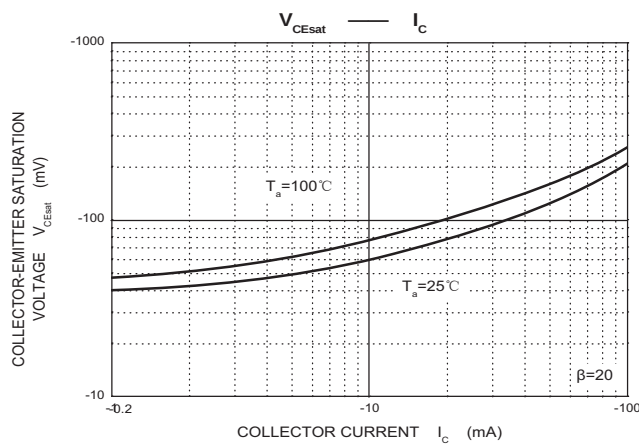
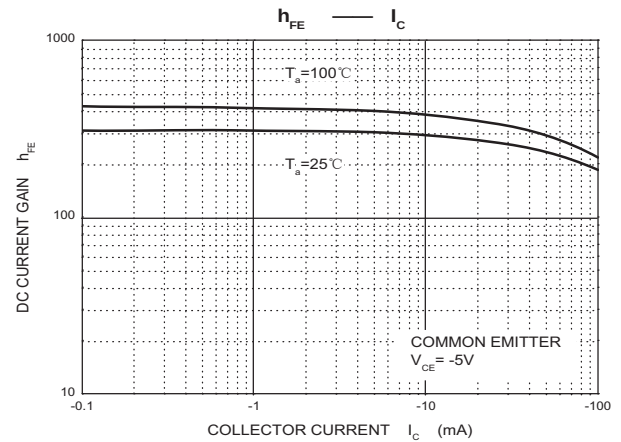
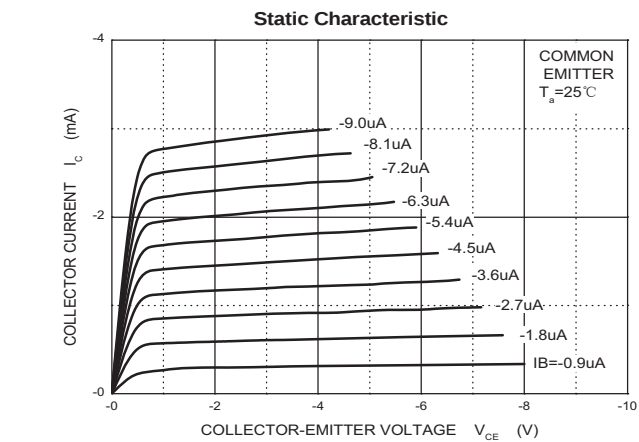
Dimensions in inches and (millimeters)

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-0.05	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-0.05	μA
DC current gain	h_{FE}	$V_{CE} = -5V, I_C = -1mA$	60		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -10mA$			-1	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = -10mA$ $f = 30MHz$	100			MHz

CLASSIFICATION OF h_{FE} (2)

Rank	A	B	C	D
Range	60-150	100-300	200-600	400-1000

Rating and characteristic curves




Pinning information

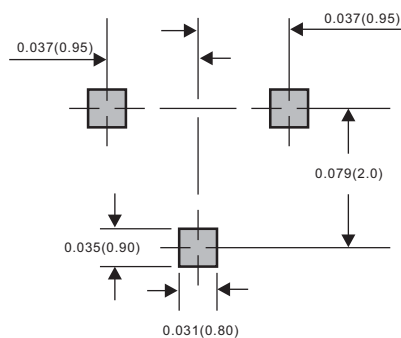
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
MMBT9015	M6

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)