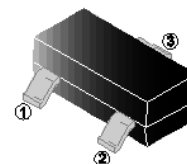


RoHS Compliant Product  
A suffix of "-C" specifies halogen and lead free

## FEATURES

- Low  $V_{CE(sat)}$
- $h_{FE}$  characterised up to 1A for high current gain hold up
- For general amplification

## SOT-23



## MARKING

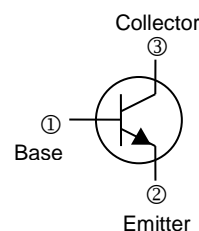
495

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

## ORDER INFORMATION

Part Number	Type
MMBT495-C	Lead (Pb)-free and Halogen-free



## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	$V_{CBO}$	170	V
Collector-Emitter Voltage	$V_{CEO}$	150	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	1	A
Collector Power Dissipation	$P_C$	250	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Junction, Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

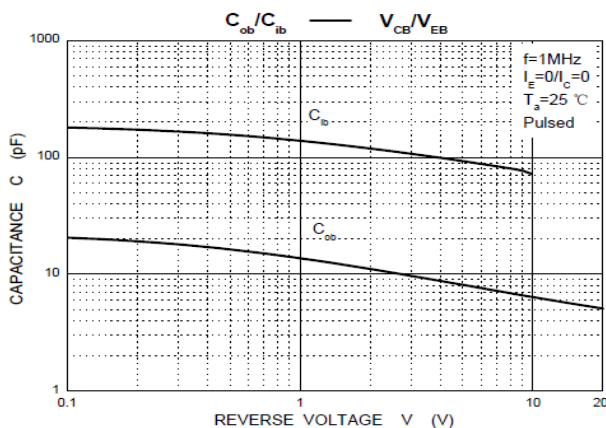
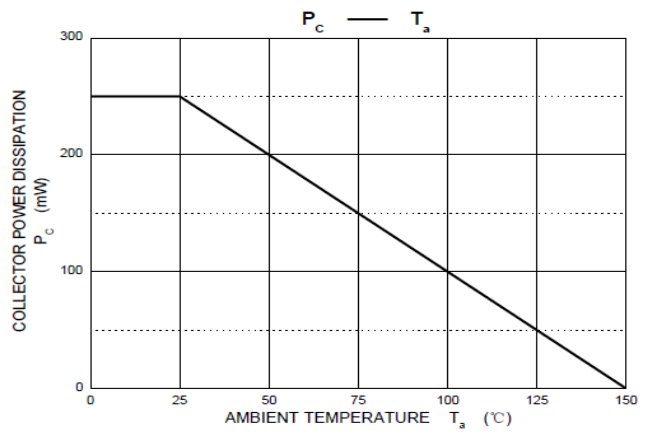
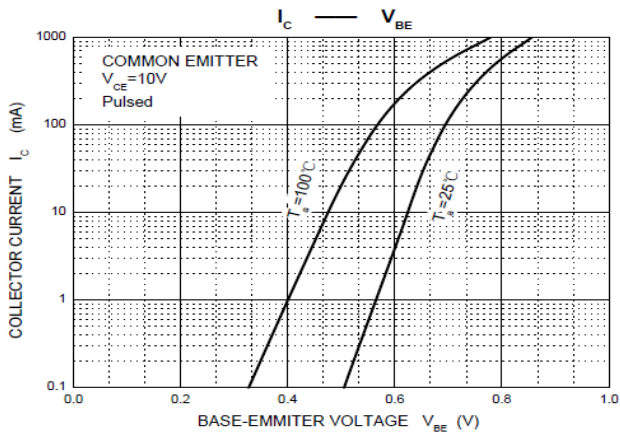
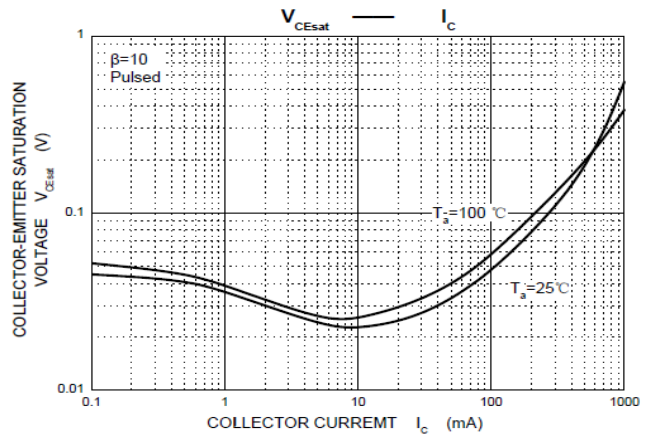
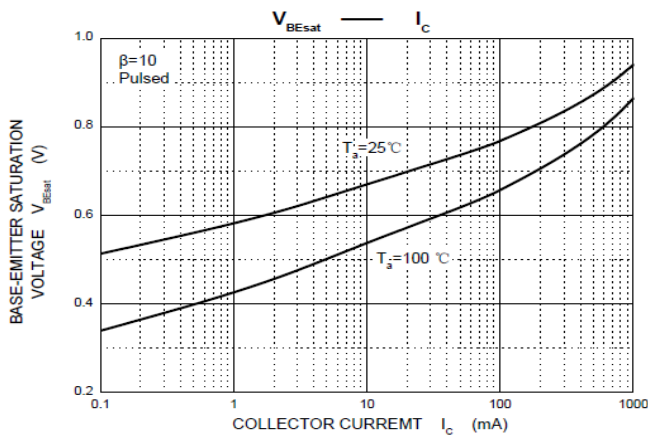
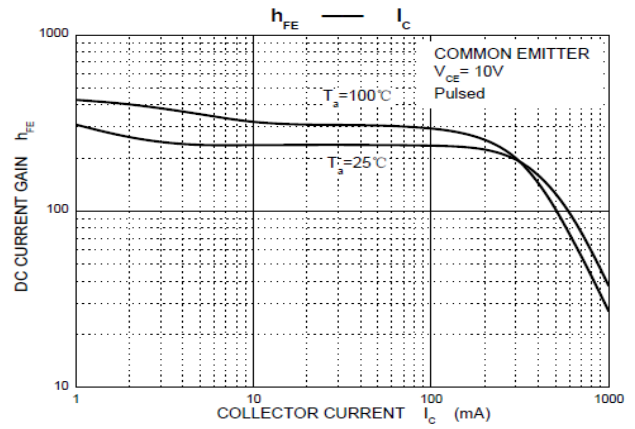
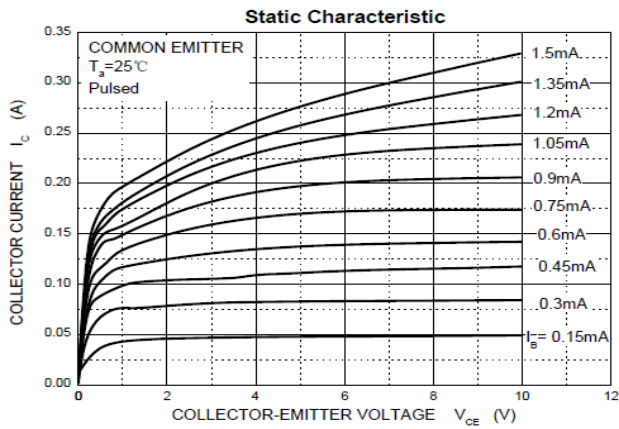
## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	170	-	-	V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage <sup>1</sup>	$V_{(BR)CEO}$	150	-	-	V	$I_C=10\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=100\mu\text{A}, I_C=0$
Collector Cut-off Current	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	$V_{CB}=150\text{V}, I_E=0$
Collector Cut-off Current	$I_{CES}$	-	-	0.1		$V_{CE}=150\text{V}, V_{BE}=0$
Emitter Cut-off Current	$I_{EBO}$	-	-	0.1		$V_{EB}=4\text{V}, I_C=0$
DC Current Gain <sup>1</sup>	$h_{FE}$	100	-	-	-	$V_{CE}=10\text{V}, I_C=1\text{mA}$
		100	-	300		$V_{CE}=10\text{V}, I_C=250\text{mA}$
		50	-	-		$V_{CE}=10\text{V}, I_C=500\text{mA}$
		10	-	-		$V_{CE}=10\text{V}, I_C=1\text{A}$
Collector-Emitter Saturation Voltage <sup>1</sup>	$V_{CE(sat)}$	-	-	0.2	V	$I_C=250\text{mA}, I_B=25\text{mA}$
		-	-	0.3		$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Turn-on Voltage <sup>1</sup>	$V_{BE(on)}$	-	-	1	V	$V_{CE}=10\text{V}, I_C=500\text{mA}$
Base-Emitter Saturation Voltage <sup>1</sup>	$V_{BE(sat)}$	-	-	1		$I_C=500\text{mA}, I_B=50\text{mA}$
Transition Frequency	$f_T$	-	100	-	MHz	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$
Collector Output Capacitance	$C_{ob}$	-	10	-	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

Note:

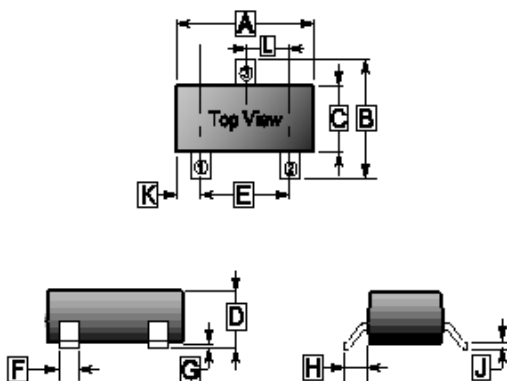
1. Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

**TYPICAL CHARACTERISTICS**



**PACKAGE OUTLINE DIMENSIONS**

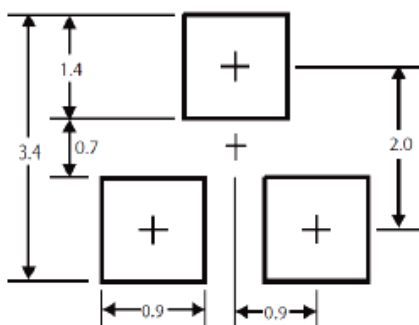
**SOT-23**



REF.	Millimeter	
	Min.	Max.
A	2.65	3.10
B	2.10	3.00
C	1.10	1.80
D	0.89	1.40
E	1.70	2.30
F	0.28	0.55
G	0	0.18
H	0.55 REF.	
J	0.05	0.26
K	0.60 REF.	
L	0.95 TYP.	

**MOUNTING PAD LAYOUT**

**SOT-23**



\*Dimensions in millimeters