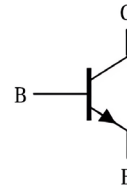
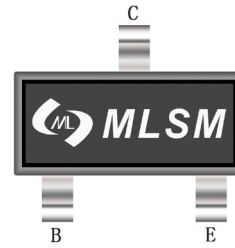


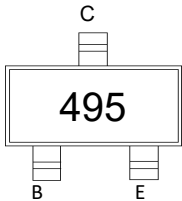
**Features**

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



SOT-23 top view

Schematic diagram



Marking and pin assignment


**Halogen-Free**
**Maximum Ratings ( $T_a=25^\circ\text{C}$  unless otherwise noted)**

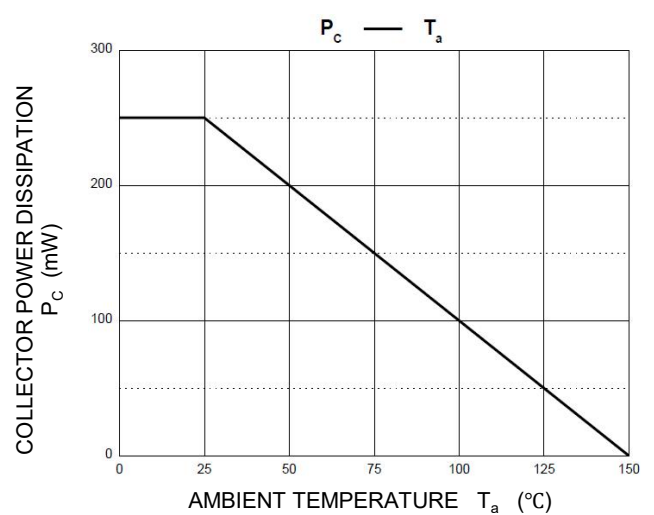
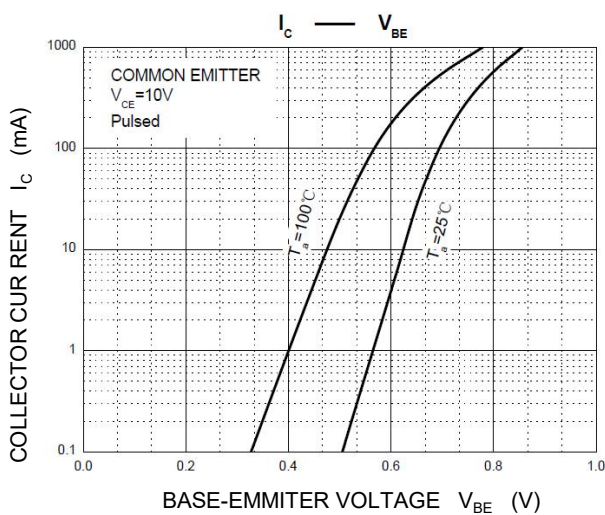
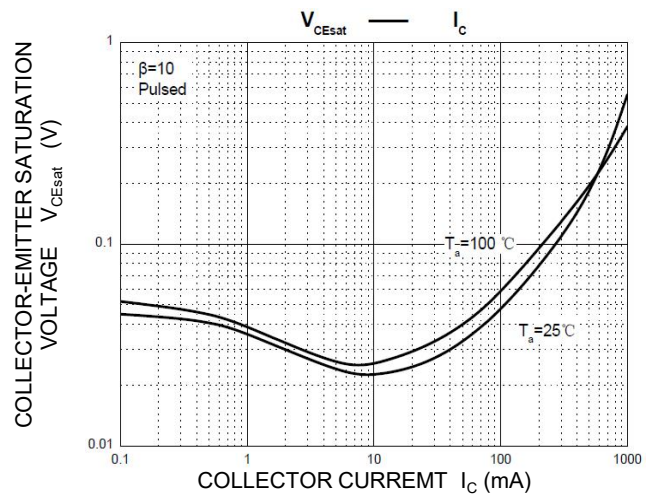
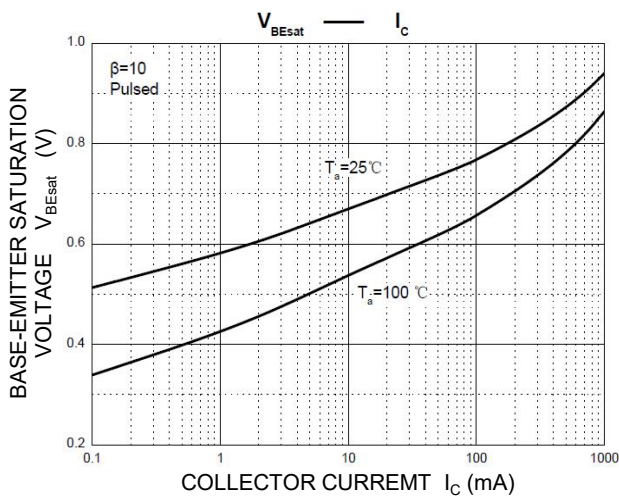
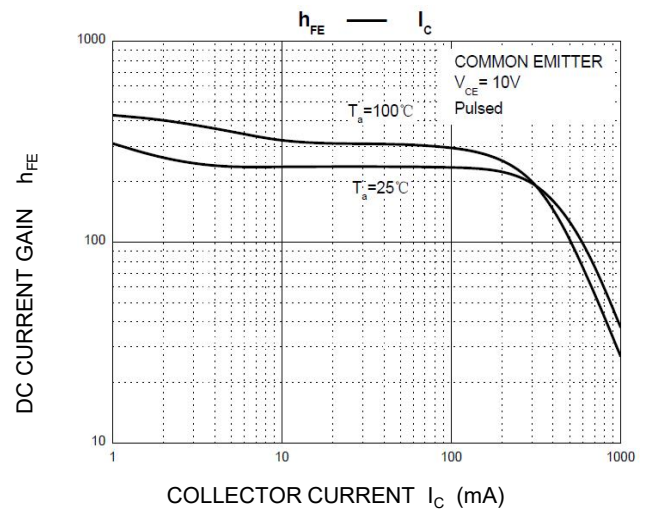
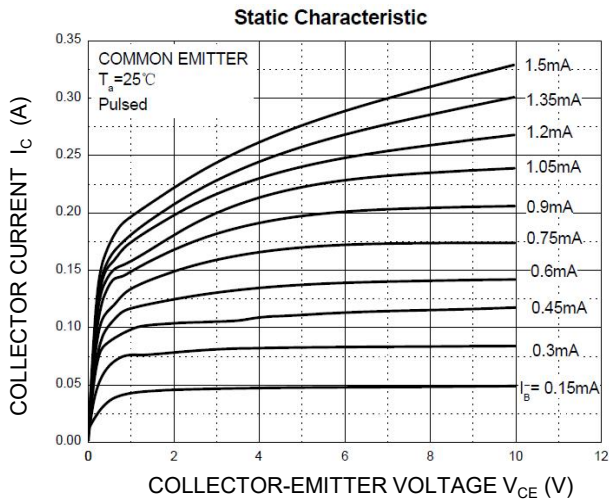
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	170	V
$V_{CEO}$	Collector-Emitter Voltage	150	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_c$	Collector Current	1	A
$P_c$	Collector Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	500	$^\circ\text{C}/\text{W}$
$T_J,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

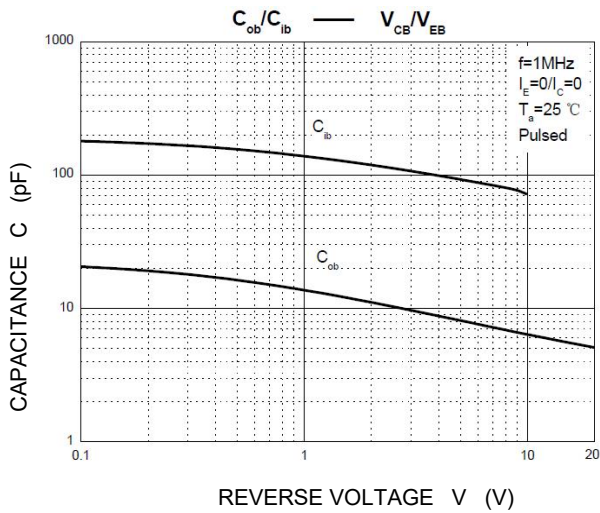
**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$  unless otherwise specified)**

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	170	--	--	V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C=10\text{mA}, I_B=0$	150	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu\text{A}, I_C=0$	5	--	--	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=150\text{V}, I_E=0$	--	--	0.1	$\mu\text{A}$
$I_{CES}$	Collector cut-off current	$V_{CE}=150\text{V}, I_E=0$	--	--	0.1	$\mu\text{A}$
$I_{EBO}$	Emitter cut-off current	$V_{EB}=4\text{V}, I_C=0$	--	--	0.1	$\mu\text{A}$
$h_{FE1}^*$	DC current gain	$V_{CE}=10\text{V}, I_C=1\text{mA}$	100	--	--	
$h_{FE2}^*$		$V_{CE}=10\text{V}, I_C=250\text{mA}$	100	--	300	
$h_{FE3}^*$		$V_{CE}=10\text{V}, I_C=500\text{mA}$	50	--	--	
$h_{FE4}^*$		$V_{CE}=10\text{V}, I_C=1\text{A}$	10	--	--	
$V_{CE(sat)1}^*$	Collector-emitter saturation voltage	$I_C=250\text{mA}, I_B=25\text{mA}$	--	--	0.2	V
$V_{CE(sat)2}^*$		$I_C=500\text{mA}, I_B=50\text{mA}$	--	--	0.3	V
$V_{BE(on)}^*$	Base-emitter turn-on voltage	$V_{CE}=10\text{V}, I_B=500\text{mA}$	--	--	1	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C=500\text{mA}, I_B=50\text{mA}$	--	--	1	V
$f_T$	Transition frequency	$V_{CE}=10\text{V}, I_C=50\text{mA}, I_E=100\text{MHz}$	100	--	--	MHz
$C_{ob}$	Collector output capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	--	--	10	pF

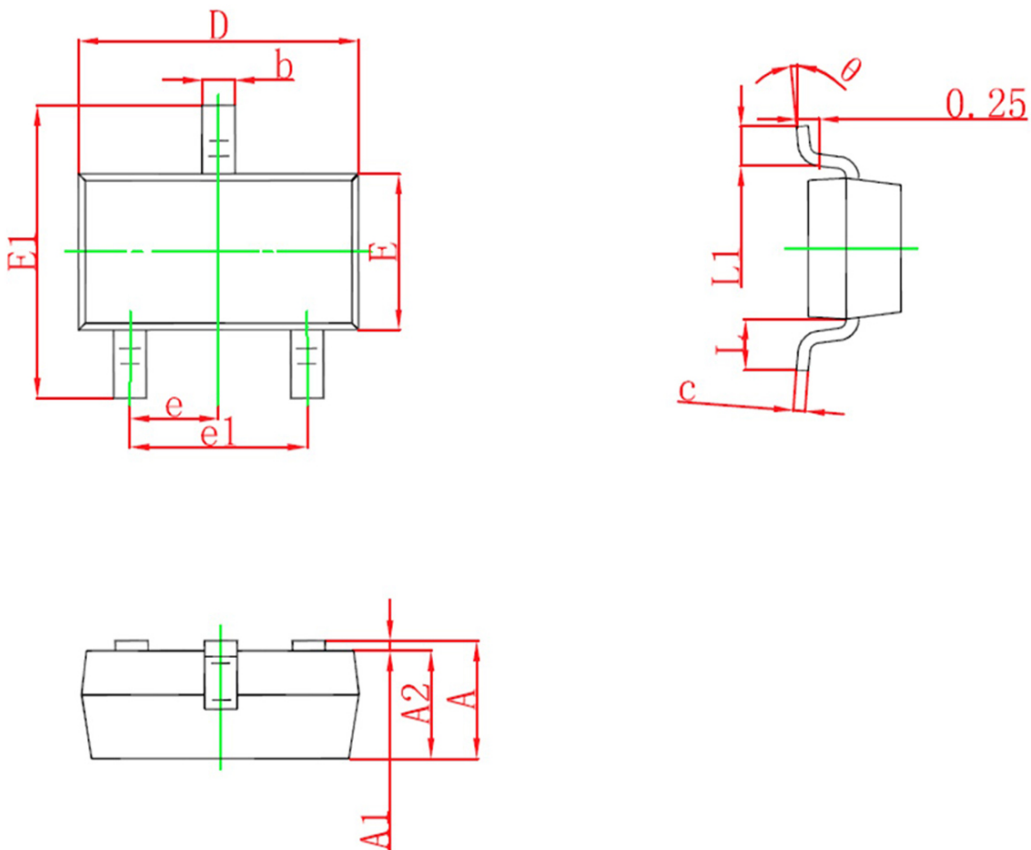
\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2.0\%$ .

Typical Operating Characteristics




**Ordering Information (Example)**

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
FMMT495	SOT-23	495	3,000	45,000	180,000	7"reel

**SOT-23 Package information**


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E1	2.250	2.550	0.088	0.100
E	1.200	1.400	0.047	0.055
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°