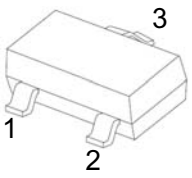
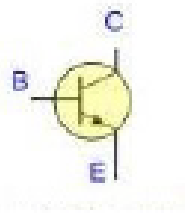
NPN Plastic-Encapsulate Transistors

PRIMARY CHARACTERISTICS	
V_{CEO}	150V
I_C	1A
$V_{CE(sat)}$	0.3V
h_{FE}	100~300
$T_{J,Max}$	150℃

SCHEMATIC DIAGRAM
SOT-23 PACKAGE





1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- Low VCE(sat)
- hFE characterised up to 1A for high current gain hold up
- For general amplification

MECHANICAL DATA

- Case：Molded plastic,SOT-23
- Polarity：Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

MAXIMUM RATINGS (T_a=25℃ 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 from Junction to Ambient	500	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

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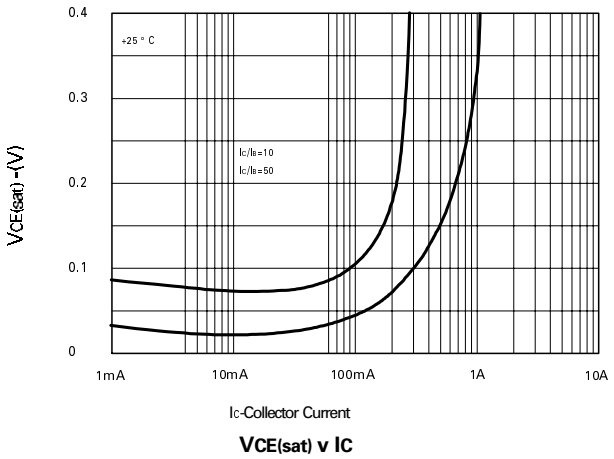
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

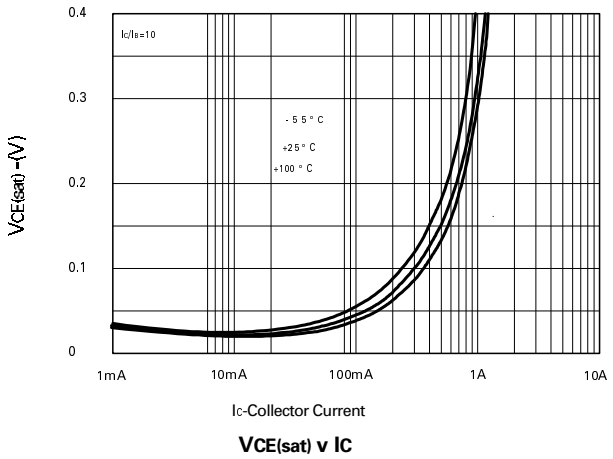
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	**Collector-base breakdown voltage**	I_C=100μA, I_E=0	170			V
$V_{(BR)CEO}$*	**Collector-emitter breakdown voltage**	I_C=10mA, I_B=0	150			V
$V_{(BR)EBO}$	**Emitter-base breakdown voltage**	I_E=100μA, I_C=0	5			V
I_{CBO}	**Collector cut-off current**	V_{CB}=150V, I_E=0			0.1	μA
I_{CES}	**Collector cut-off current**	V_{CE}=150V,V_{BE}=0			0.1	μA
I_{EBO}	**Emitter cut-off current**	V_{EB}=4V, I_C=0			0.1	μA
$h_{FE(1)}$*	**DC current gain**	V_{CE}=10V, I_C=1mA	100			
$h_{FE(2)}$*		V_{CE}=10V, I_C=250mA	100		300	
$h_{FE(3)}$*		V_{CE}=10V, I_C=500mA	50			
$h_{FE(4)}$*		V_{CE}=10V, I_C=1A	10			
$V_{CE(sat)(1)}$*	**Collector-emitter saturation voltage**	I_C=250mA, I_B=25mA			0.2	V
$V_{CE(sat)(2)}$*		I_C=500mA, I_B=50mA			0.3	V
$V_{BE(on)}$*	**Base-emitter turn-on voltage**	V_{CE}=10V, I_C=500mA			1	V
$V_{BE(sat)}$*	**Base-emitter saturation voltage**	I_C=500mA, I_B=50mA			1	V
f_T	**Transition frequency**	V_{CE}=10V,I_C=50mA,f=100MHz				MHz
C_{ob}	**Collector output capacitance**	V_{CB}=10V,I_E=0,f=1MHz			10	pF

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

Typical Characteristics



VCE(sat) v IC



VCE(sat) v IC

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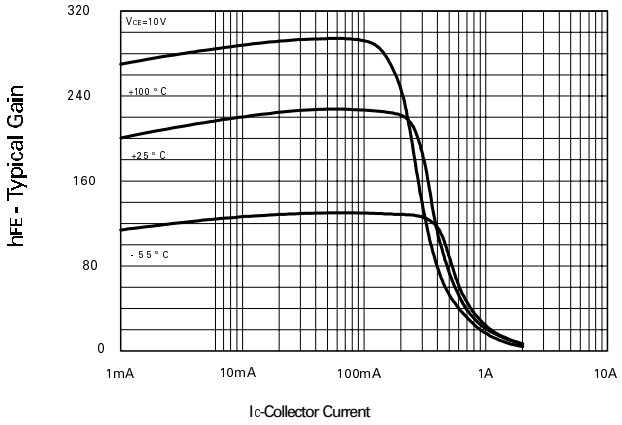
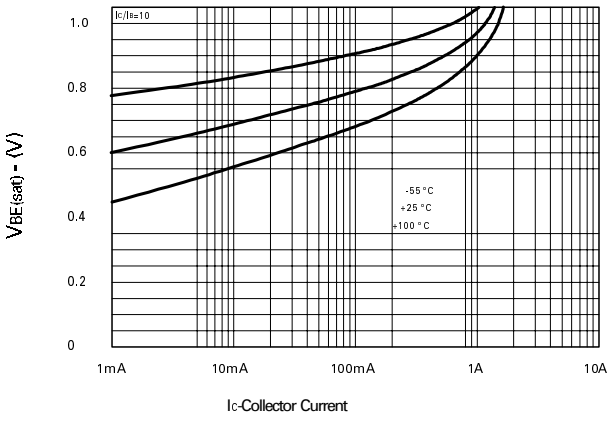
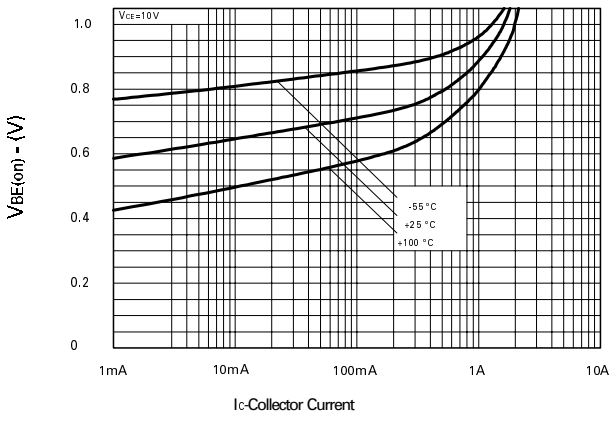
Typical Characteristics



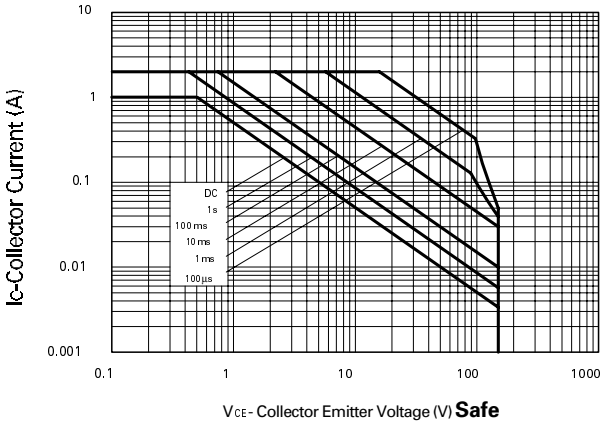
hFE V IC



VBE(sat) v IC



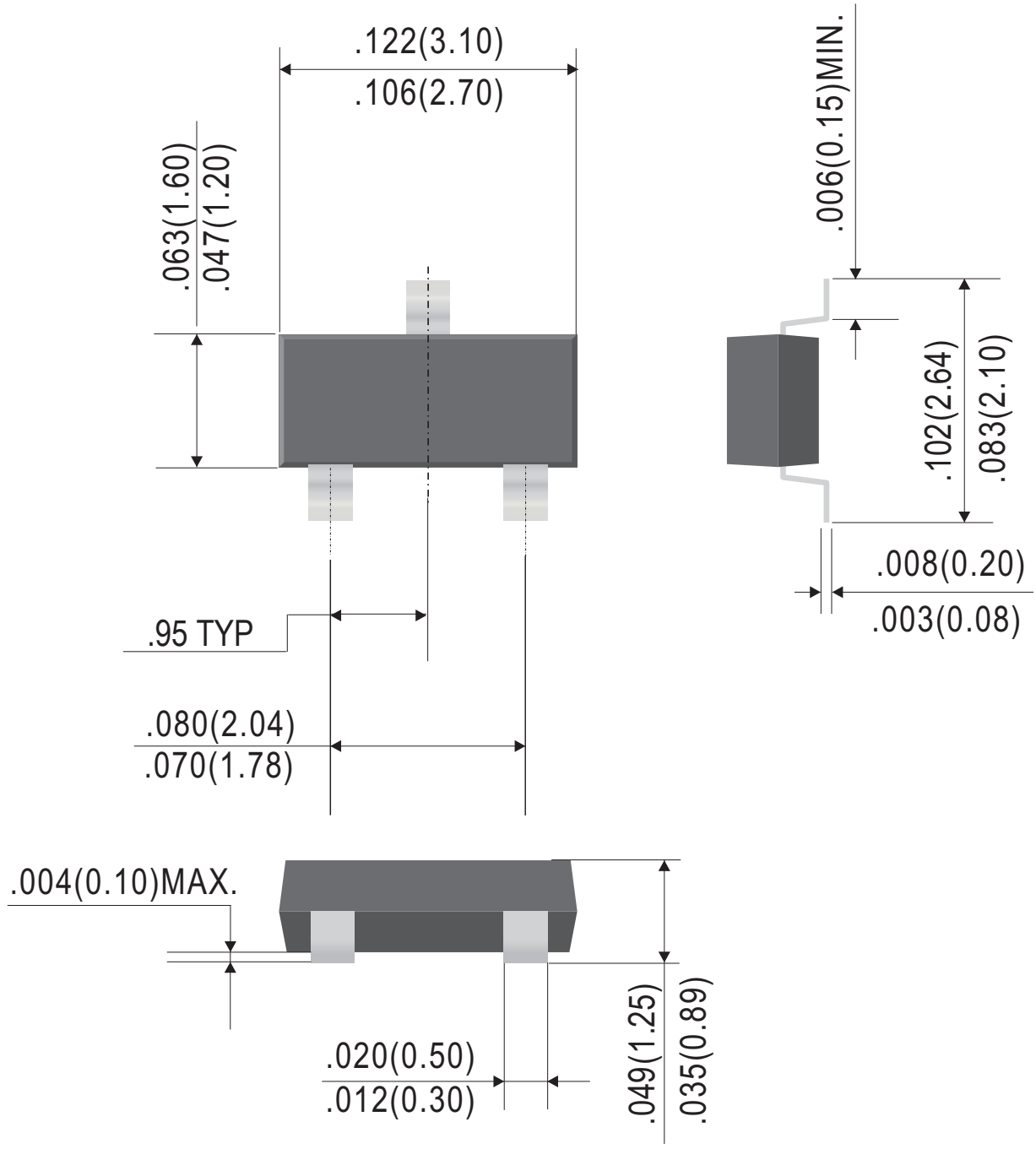
VBE(on) v IC



Safe Operating Area

Outline Drawing

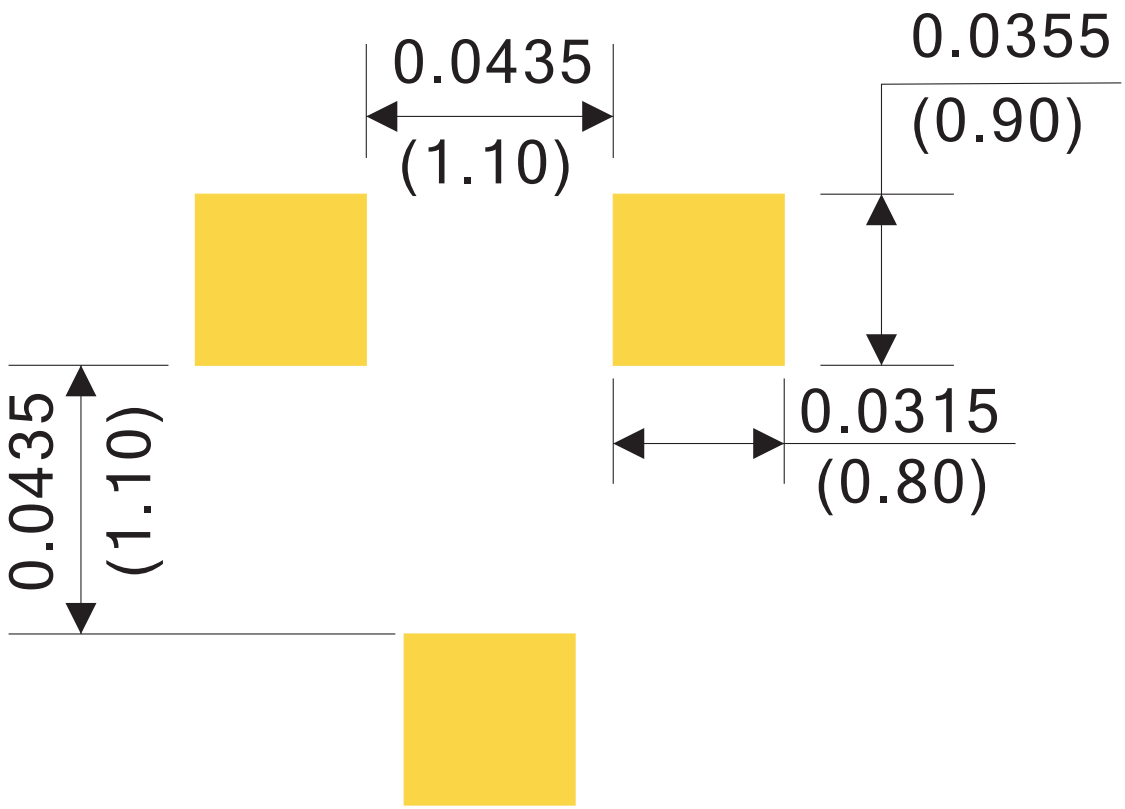
SOT-23



Dimensions in inches and (millimeters)

Rev.E

Suggested Soldering Pad Layout	SOT-23



Dimensions in inches and (millimeters)

RevA

Ordering Information:

Device PN	Marking	Packing
FMMT495 -T(1)H(2)-WS(3)	495	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Halogen free product for packing code suffix "H"

(3) Willas brand abbreviation, Label Type does not display