

# Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

## FEATURES

- Complementary to MMBT4403W
- Small Surface Mount Package

**MARKING: 2X**

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

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	600	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^\circ\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^\circ\text{C}$

**SOT-323**

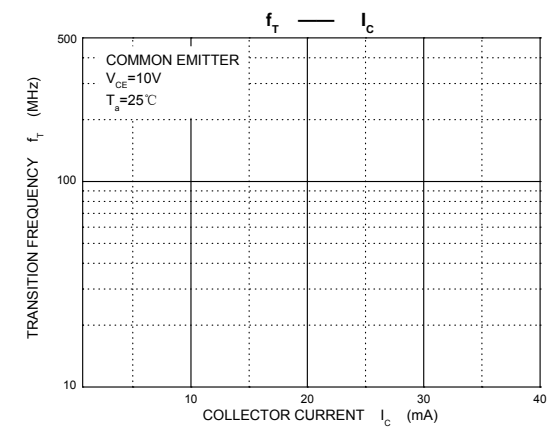
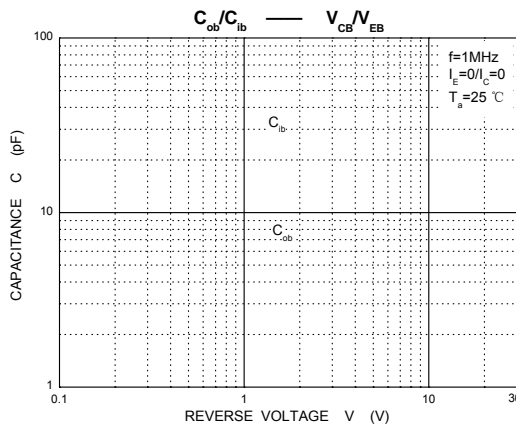
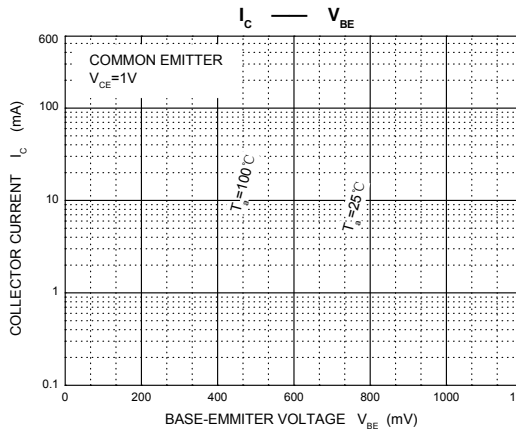
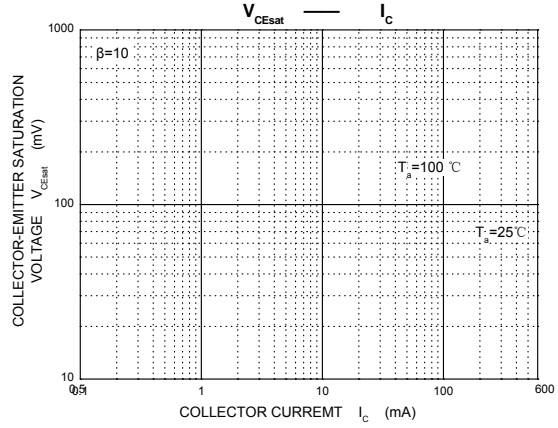
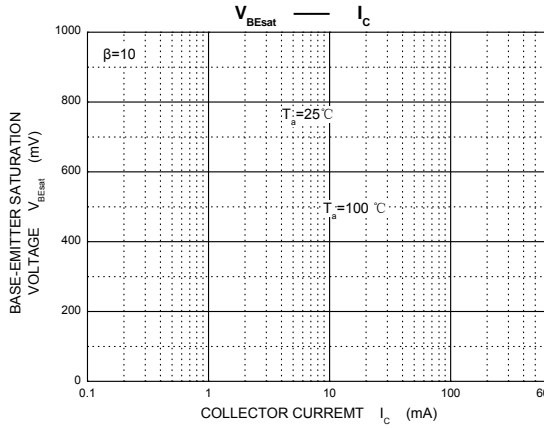
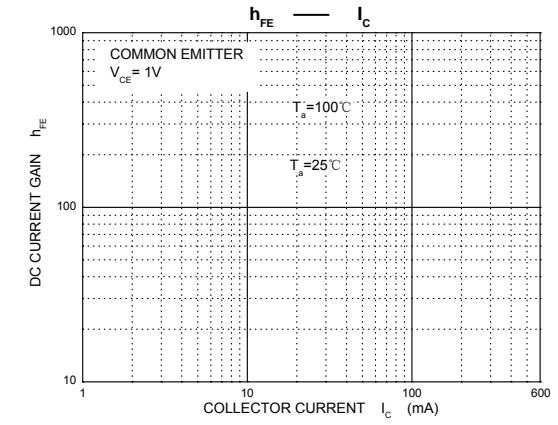
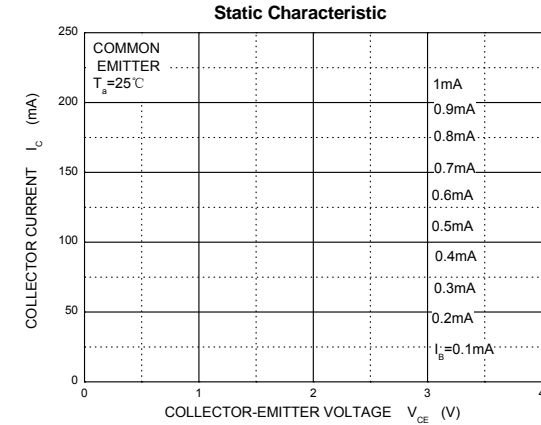


1. BASE
2. EMITTER
3. COLLECTOR

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=35\text{V}, I_E=0$			100	nA
Collector cut-off current	$I_{CEO}$	$V_{CE}=35\text{V}, I_B=0$			500	nA
DC current gain	$h_{FE}$	$V_{CE}=1\text{V}, I_C=100\mu\text{A}$	20			
		$V_{CE}=1\text{V}, I_C=1\text{mA}$	40			
		$V_{CE}=1\text{V}, I_C=10\text{mA}$	80			
		$V_{CE}=1\text{V}, I_C=150\text{mA}$	100		300	
		$V_{CE}=2\text{V}, I_C=500\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=150\text{mA}, I_B=15\text{mA}$			0.4	V
		$I_C=500\text{mA}, I_B=50\text{mA}$			0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.75		0.95	V
		$I_C=500\text{mA}, I_B=50\text{mA}$			1.2	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	250			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=5\text{V}, I_E=0, f=1\text{MHz}$			6.5	pF

# Typical Characteristics



## SOT-323 Package Outline Dimensions

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