

Dimensions in inches and (millimeters)

## Features

- ✧ Epitaxial Planar Die Construction
- ✧ Complementary NPN Type Available(MMDT 5551)
- ✧ Ideal for Medium Power Amplification and Switching

MRKING:K4M

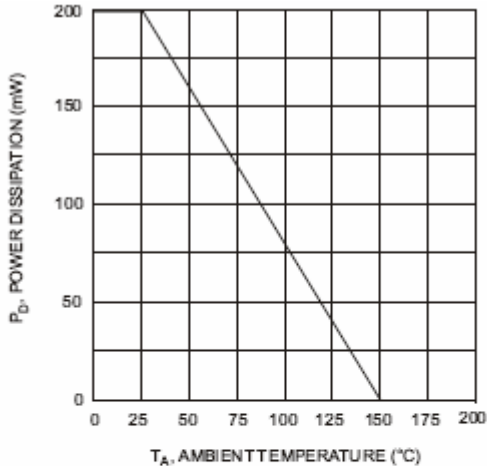
MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector- Base Voltage	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-150	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-0.2	A
$P_C$	Collector Power Dissipation	0.2	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$

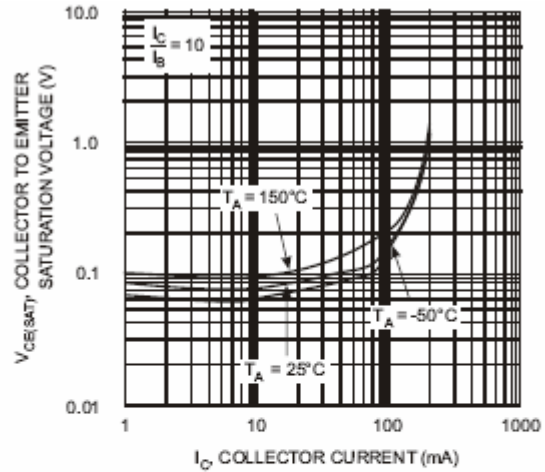
## ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$ , $I_E=0$	-160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$ , $I_B=0$	-150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$ , $I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-120\text{V}$ , $I_E=0$			-0.05	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-3\text{V}$ , $I_C=0$			-0.05	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=-5\text{V}$ , $I_C=-1\text{mA}$	50			
	$h_{FE(2)}$	$V_{CE}=-5\text{V}$ , $I_C=-10\text{mA}$	60		240	
	$h_{FE(3)}$	$V_{CE}=-5\text{V}$ , $I_C=-50\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=-10\text{mA}$ , $I_B=-1\text{mA}$			-0.2	V
	$V_{CE(sat)2}$	$I_C=-50\text{mA}$ , $I_B=-5\text{mA}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=-10\text{mA}$ , $I_B=-1\text{mA}$			-1	V
	$V_{BE(sat)2}$	$I_C=-50\text{mA}$ , $I_B=-5\text{mA}$			-1	V
Transition frequency	$f_T$	$V_{CE}=-10\text{V}$ , $I_C=-10\text{mA}$ , $f=100\text{MHz}$	100			MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$			6	pF
Noise Figure	NF	$V_{CE}=-5.0\text{V}$ , $I_C=-200\mu\text{A}$ , $R_S=10\Omega$ , $f=1.0\text{kHz}$			8.0	dB

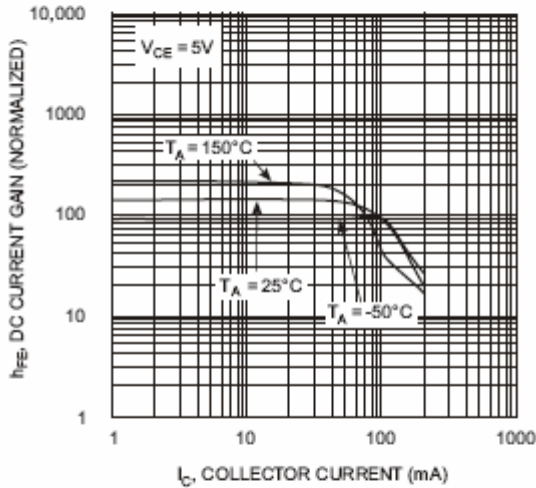
## Typical Characteristics



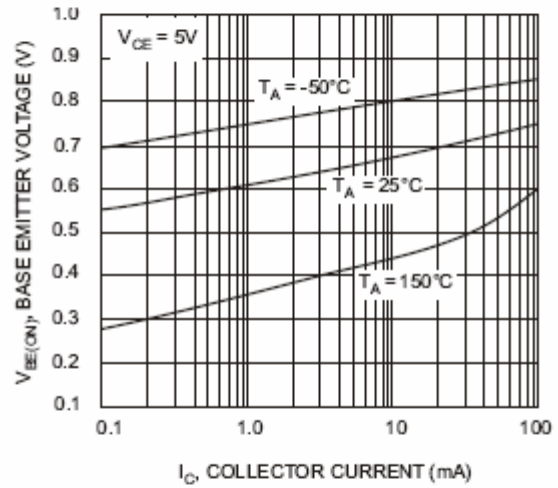
$T_A$ , AMBIENT TEMPERATURE (°C)  
Fig. 1, Max Power Dissipation vs Ambient Temperature



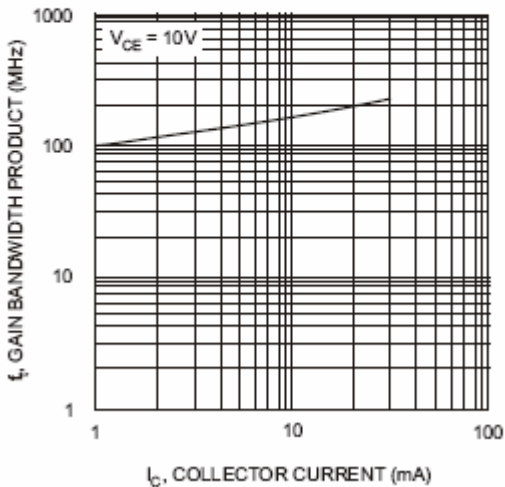
$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current



$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 3, DC Current Gain vs. Collector Current



$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 4, Base Emitter Voltage vs. Collector Current



$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 5, Gain Bandwidth Product vs Collector Current