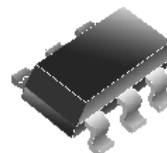


RoHS Compliant Product
A suffix of "-C" specifies halogen and lead free

FEATURES

- Power Dissipation P_C : 200mW ($T_A=25^\circ\text{C}$)
- Collector Current I_C : -200mA
- Collector-Base Voltage $V_{(BR)CBO}$: -40V

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MARKING

K3N

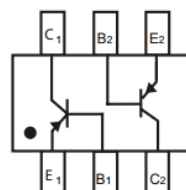
A2

PACKAGING DIMENSION

Package	MPQ	Leader Size
SOT-363	3K	7 inch

ORDER INFORMATION

Part Number	Type
MMDT3906-C	Lead (Pb)-free and Halogen-free



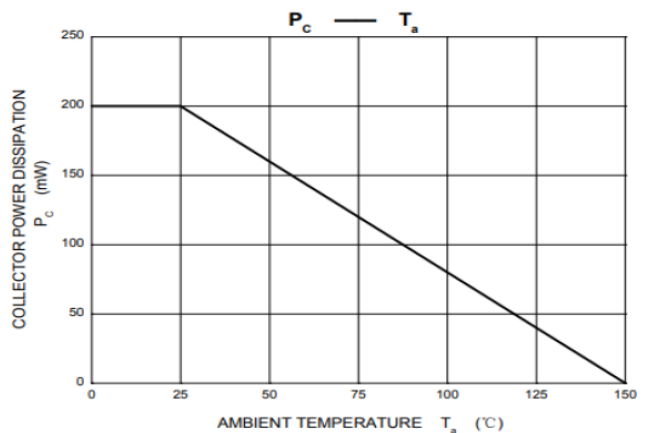
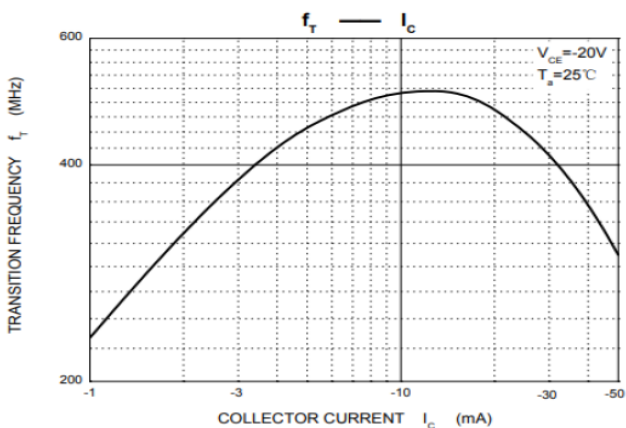
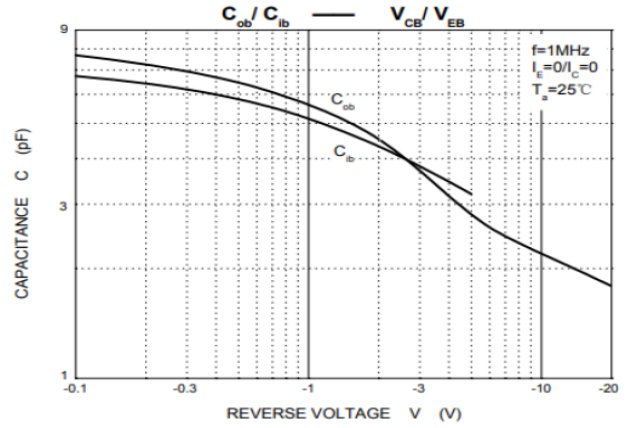
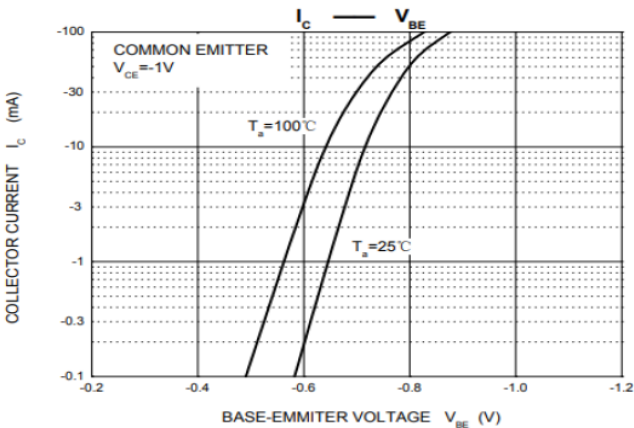
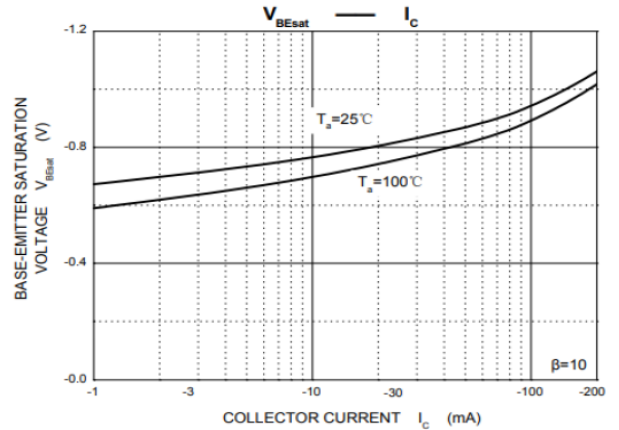
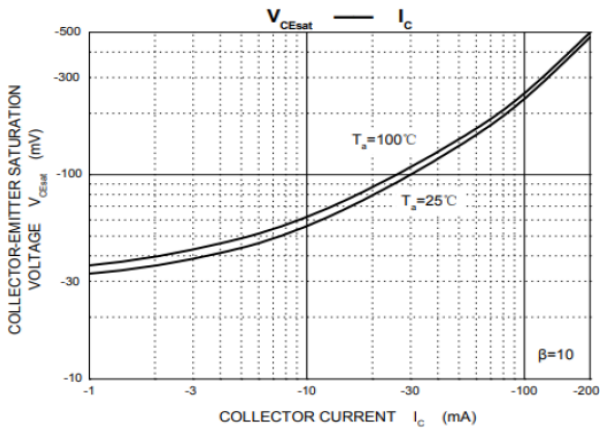
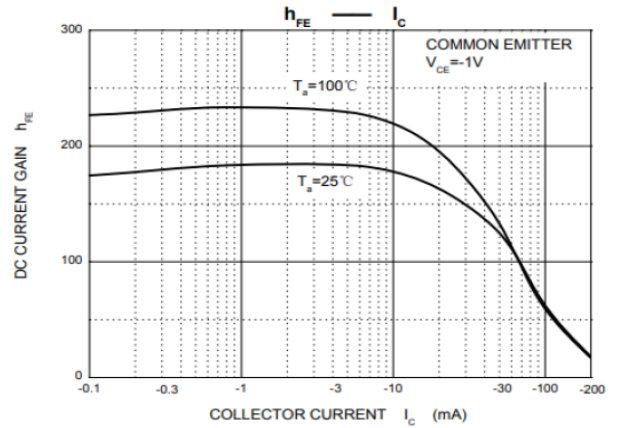
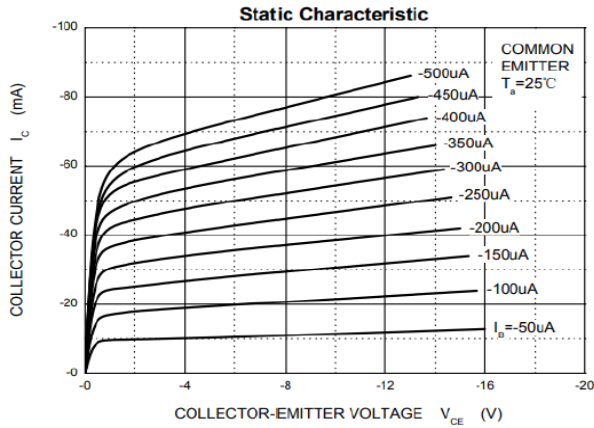
ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-200	mA
Power Dissipation	P_C	200	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction, Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

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

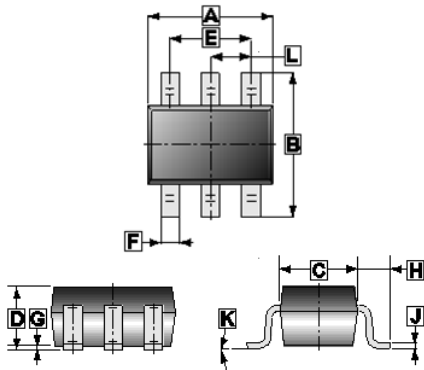
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40	-	-	V	$I_C = -10\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40	-	-		$I_C = -1\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-		$I_E = -10\mu\text{A}, I_C = 0$
Collector Cut-off Current	I_{CBO}	-	-	-50	nA	$V_{CB} = -30\text{V}, I_E = 0$
Emitter Cut-off Current	I_{EBO}	-	-	-50		$V_{EB} = -5\text{V}, I_C = 0$
Collector Cut-off Current	I_{CEX}	-	-	-50		$V_{CE} = -30\text{V}, V_{BE(off)} = -3\text{V}$
DC Current Gain	h_{FE}	40	-	-		$V_{CE} = -1\text{V}, I_C = -0.1\text{mA}$
		70	-	-		$V_{CE} = -1\text{V}, I_C = -1\text{mA}$
		100	-	300		$V_{CE} = -1\text{V}, I_C = -10\text{mA}$
		60	-	-		$V_{CE} = -1\text{V}, I_C = -50\text{mA}$
		30	-	-		$V_{CE} = -1\text{V}, I_C = -100\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.25	V	$I_C = -10\text{mA}, I_B = -1\text{mA}$
		-	-	-0.4		$I_C = -50\text{mA}, I_B = -5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-0.65	-	-0.85	V	$I_C = -10\text{mA}, I_B = -1\text{mA}$
		-	-	-0.95		$I_C = -50\text{mA}, I_B = -5\text{mA}$
Transition Frequency	f_T	-	250	-	MHz	$V_{CE} = -20\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$
Output Capacitance	C_{ob}	-	4.5	-	pF	$V_{CB} = -5\text{V}, I_E = 0, f = 1\text{MHz}$
Noise Figure	NF	-	4	-	dB	$V_{CE} = -5\text{V}, I_C = -0.1\text{mA}, f = 1\text{kHz}, R_S = 1\text{k}\Omega$
Delay time	T_d	-	35	-	nS	$V_{CC} = -3\text{V}, V_{BE} = 0.5\text{V}, I_C = -10\text{mA}, I_{B1} = -I_{B2} = -1\text{mA}$
Rise time	T_r	-	35	-		
Storage time	T_s	-	225	-		
Fall time	T_f	-	75	-		

CHARACTERISTIC CURVES



PACKAGE OUTLINE DIMENSIONS

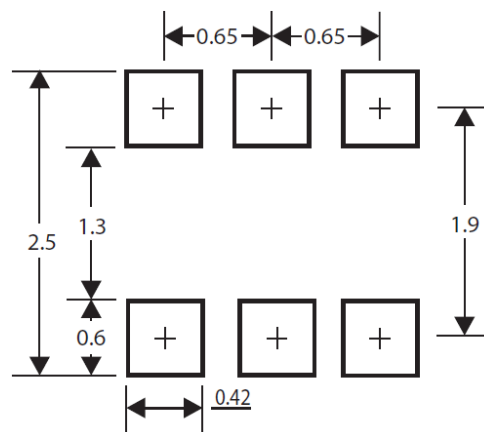
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REF.	Millimeter	
	Min.	Max.
A	1.80	2.20
B	1.80	2.45
C	1.15	1.35
D	0.70	1.10
E	1.30 REF.	
F	0.10	0.35
G	0.10 REF.	
H	0.525 REF.	
J	0.05	0.25
K	8°	
L	0.65 TYP.	

MOUNTING PAD LAYOUT

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*Dimensions in millimeters