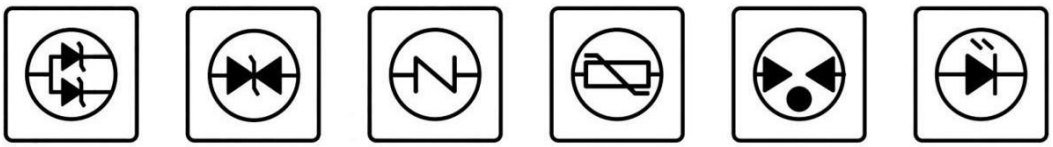
MSKSEMI 美森科
SEMICONDUCTOR



MMDT3904V-MS

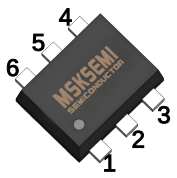
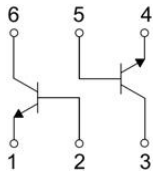
Product specification

MMDT3904V-MS

FEATURE

- Epitaxial planar die construction
- Ideal for low power amplification and switching

Reference News

SOT-563	PIN Configuration	Marking
		

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	0.2	A
pc	Collector Power Dissipation	0.2	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA,I_E=0	60			V
Collector-emitter breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	40			V
Emitter-base breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0			0.05	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.05	μA
Collector cut-off current	I_{CEX}	V_{CE}=30V,$V_{BE(off)}$=3V			0.05	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V,I_C=0.1mA	40			
	$h_{FE(2)}$	V_{CE}=1V,I_C=1mA	70			
	$h_{FE(3)}$	V_{CE}=1V,I_C=10mA	100		300	
	$h_{FE(4)}$	V_{CE}=1V,I_C=50mA	60			
	$h_{FE(5)}$	V_{CE}=1V,I_C=100mA	30			
Collector-emitter saturation Voltage	$V_{CE(sat)1}$	I_C=10mA,I_B=1mA			0.2	V
	$V_{CE(sat)2}$	I_C=50mA,I_B=5mA			0.3	V
Base-emitter saturation Voltage	$V_{BE(sat)1}$	I_C=10mA,I_B=1mA	0.65		0.85	V
	$V_{BE(sat)2}$	I_C=50mA,I_B=5mA			0.95	V
Transition frequency	f_T	V_{CE}=20V,I_C=10mA,f=100MHz	300			MHz
Collector output capacitance	C_{ob}	V_{CB}=5V,I_E=0,f=1MHz				pF
Delay time	t_d	V_{CC}=3V, $V_{BE(off)}$=-0.5V			35	ns
Rise time	t_r	I_C=10mA , I_{B1}=-I_{B2}= 1mA			35	ns
Storage time	t_s	V_{CC}=3V, I_C=10mA			200	ns
Fall time	t_f	I_{B1}=-I_{B2}=1mA			50	ns

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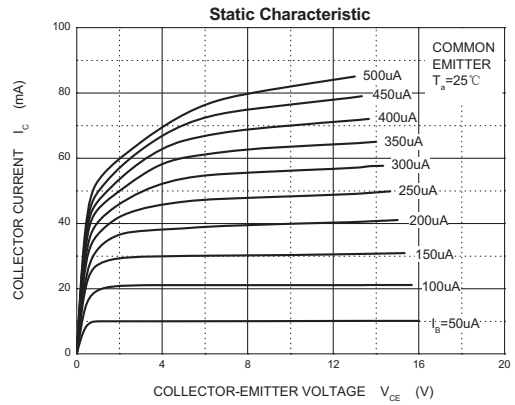
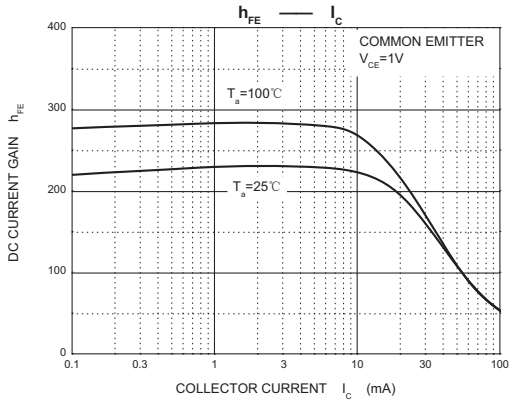
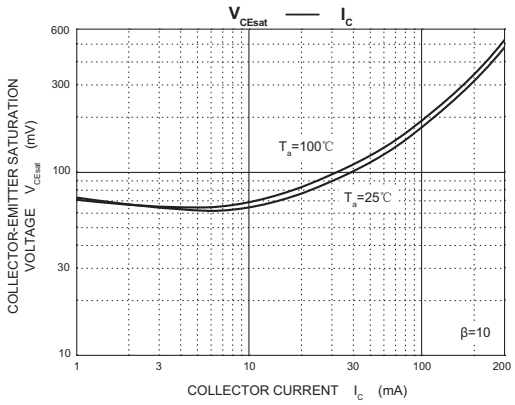
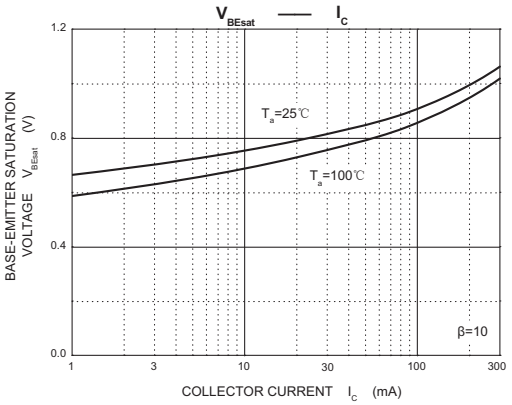
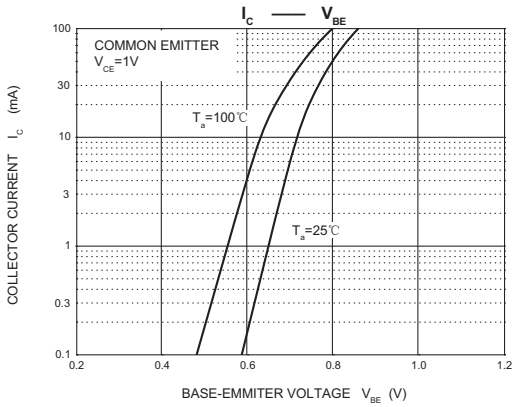
Typical Characteristics

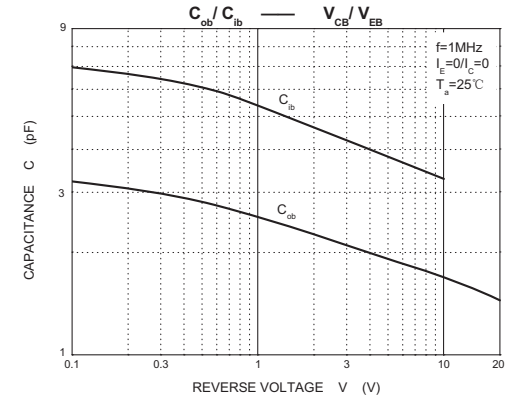


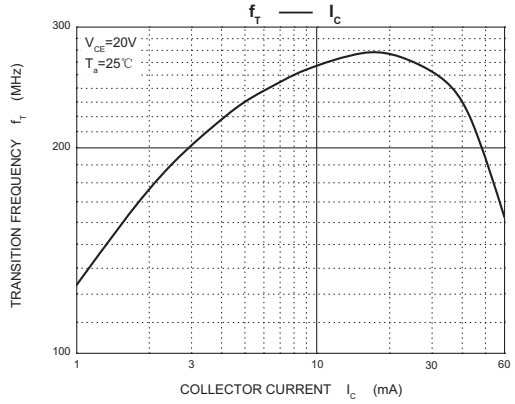


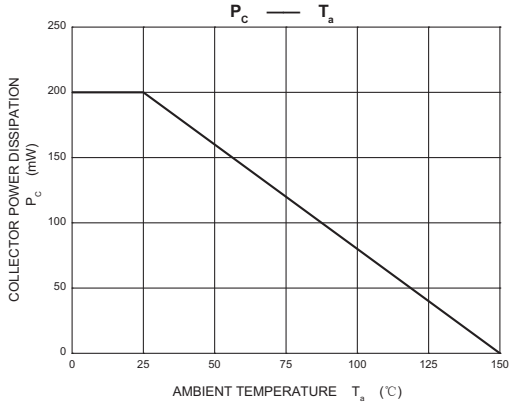












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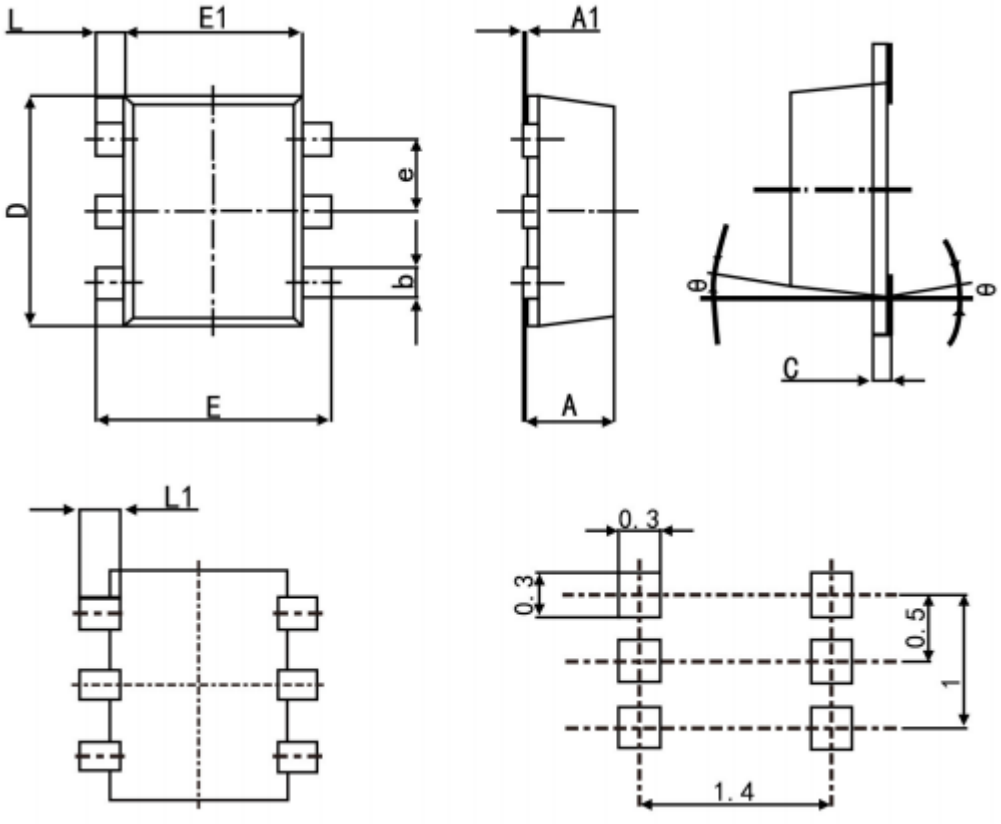
PACKAGE MECHANICAL DATA



SOT-563

Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.525	0.600
A1	0.000	0.050
e	0.450	0.550
c	0.090	0.160
D	1.500	1.700
b	0.170	0.270
E1	1.100	1.300
E	1.500	1.700
L	0.100	0.300
LI	0.200	0.400
θ	7°REF.	

REELSPECIFICATION

P/N	PKG	QTY
MMDT3904V-MS	SOT-563	3000

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