

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## MMST3906

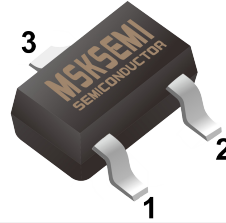
Product specification

## FEATURES

- Complementary to MMST3904

## Reference News

### PACKAGE OUTLINE



1. BASE
2. EMITTER
3. COLLECTOR

SOT-323

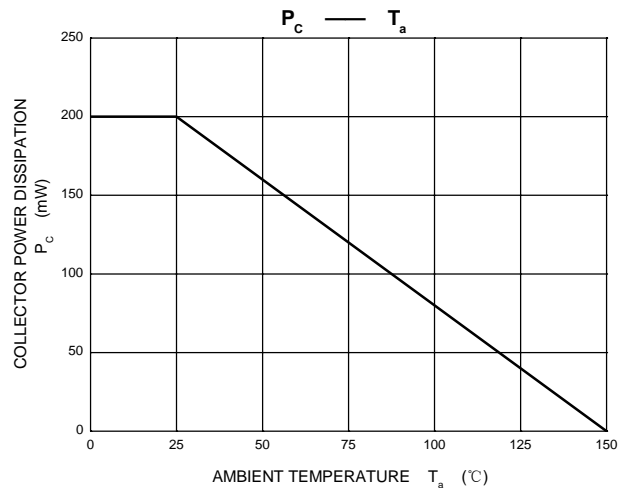
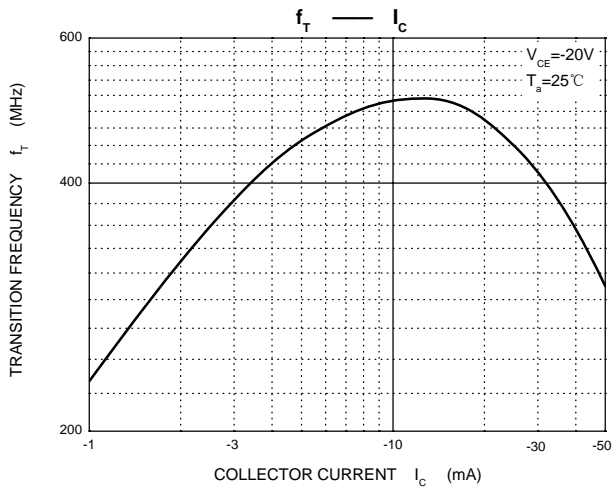
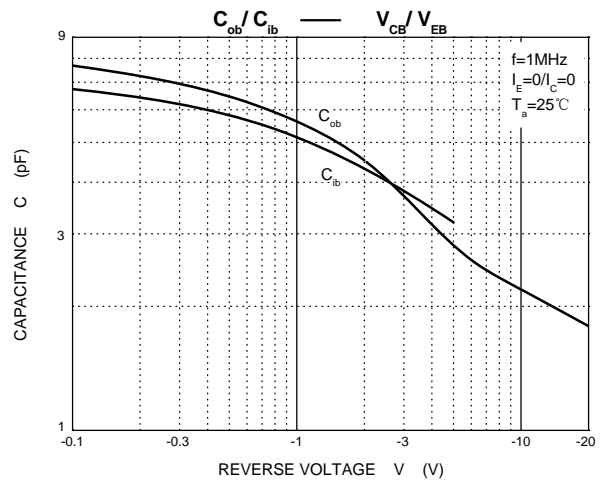
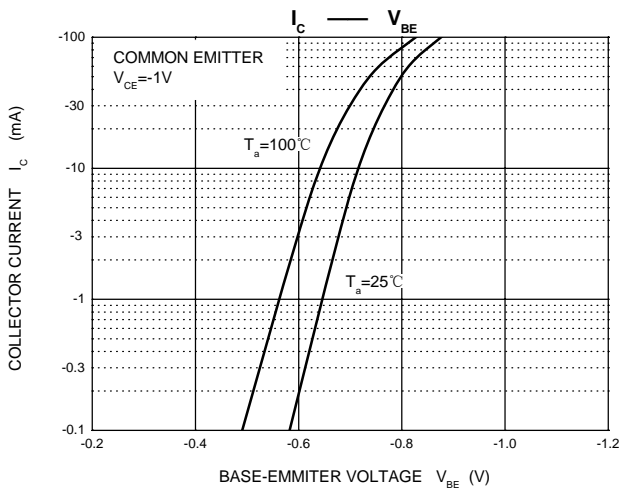
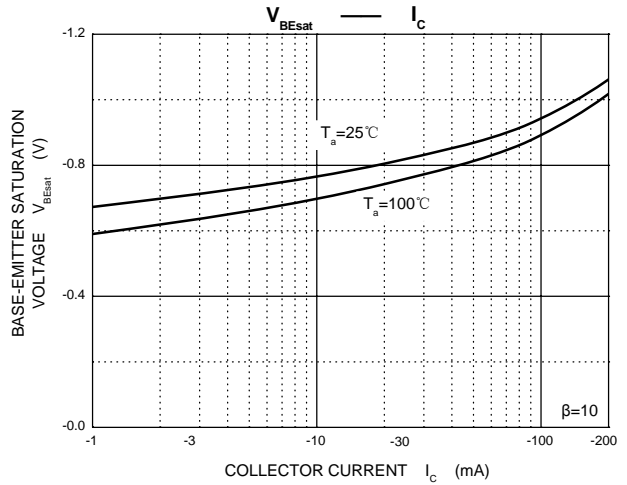
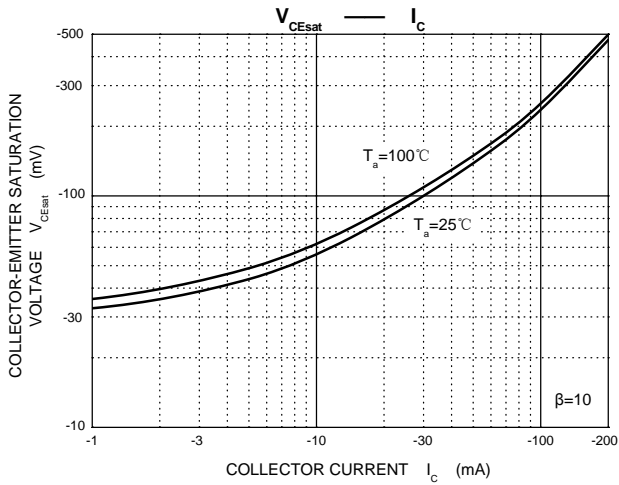
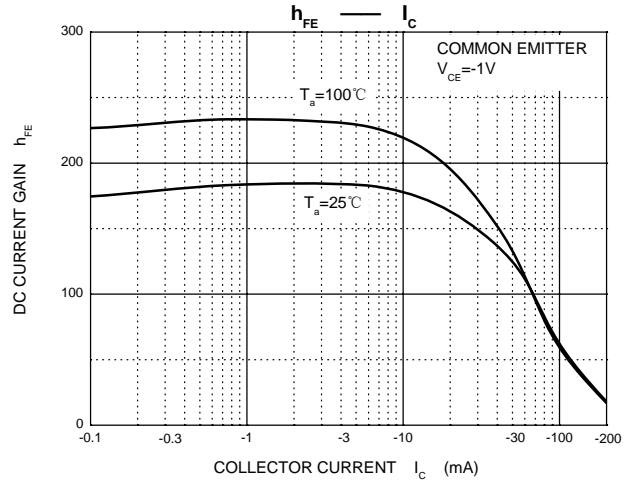
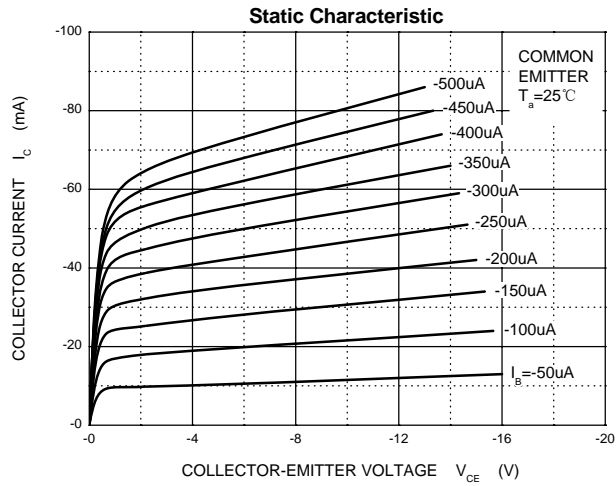
## MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-200	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55 ~ +150	°C

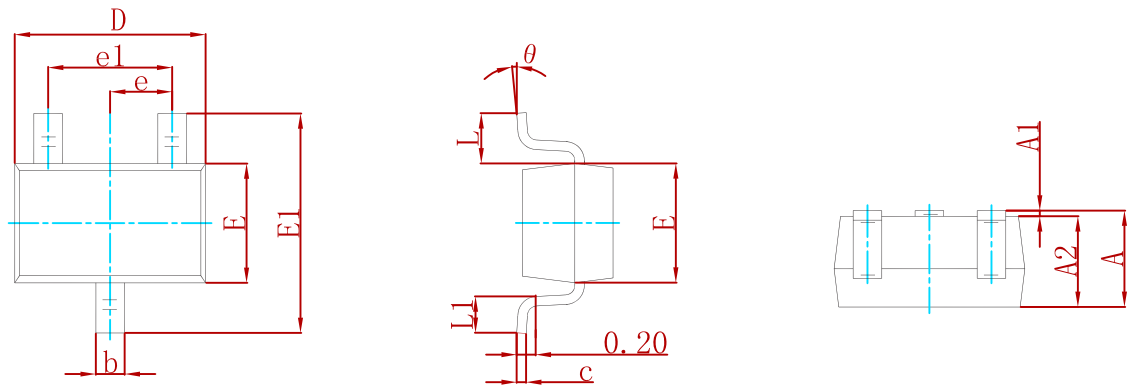
## ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}^*$	$I_C = -10\mu A, I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = -1mA, I_B = 0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}^*$	$I_E = -10\mu A, I_C = 0$	-5			V
Base cut-off current	$I_{BL}^*$	$V_{CE} = -30V, V_{EB(off)} = -3V$			-50	nA
Collector cut-off current	$I_{CEX}^*$	$V_{CE} = -30V, V_{EB(off)} = -3V$			-50	nA
DC current gain	$h_{FE}^*$	$V_{CE} = -1V, I_C = -100\mu A$	60			
		$V_{CE} = -1V, I_C = -1mA$	80			
		$V_{CE} = -1V, I_C = -10mA$	100		300	
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C = -10mA, I_B = -1mA$			-0.2	V
		$I_C = -50mA, I_B = -5mA$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C = -10mA, I_B = -1mA$	-0.65		-0.85	V
		$I_C = -50mA, I_B = -5mA$			-0.95	V
Transition frequency	$f_T$	$V_{CE} = -20V, I_C = -10mA, f = 100MHz$	250			MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -5V, I_E = 0, f = 1MHz$			4.5	pF
Collector output capacitance	$C_{ib}$	$V_{EB} = -0.5V, I_E = 0, f = 1MHz$			10	pF
Delay time	$t_d$	$V_{CC} = -3V, V_{BE(off)} = -0.5V, I_C = -10mA, I_{B1} = -1mA$			35	ns
Rise time	$t_r$				35	ns
Storage time	$t_s$	$V_{CC} = 3V, I_C = -10mA, I_{B1} = I_{B2} = -1mA$			225	ns
Fall time	$t_f$				75	ns

\*Pulse test: pulse width  $\leq 300\mu s$ , duty cycles  $\leq 2.0\%$ .

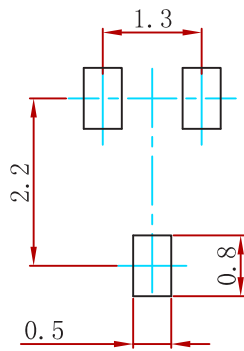


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:  
1.Controlling dimension:in millimeters.  
2.General tolerance:±0.05mm.  
3.The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
MMST3906	SOT-323	3000

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