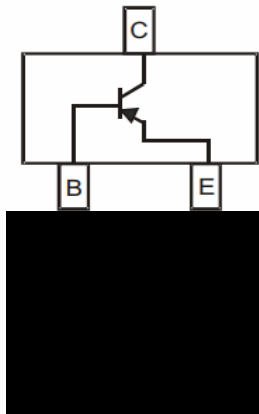


## PNP General Purpose Amplifier



**SOT-323**

### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- High Conductance
- Part no. with suffix "Q" means AEC-Q101 qualified

### Mechanical Data

- Case:** SOT-323
- Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking:** K5N

### Maximum Ratings (Ta=25 unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	$V_{CBO}$	V		-40
Collector-Emitter Voltage	$V_{CEO}$	V		-40
Emitter-Base Voltage	$V_{EBO}$	V		-5
Collector Current -Continuous	$I_C$	mA		-200
Total Device Dissipation (*)	$P_D$	mW		200
Thermal Resistance Junction to Ambient (*)	$R_{thJA}$	K/W		625
Junction Temperature	$T_j$			-55 to +150
Storage Temperature	$T_{STG}$			-55 to +150

(\*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch



# MMST3906Q

RoHS  
COMPLIANT

## Electrical Characteristics (Ta=25 unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Max
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Vdc	$I_C = -1\text{mA}, I_B = 0$	-40	
Collector-base breakdown voltage	$V_{(BR)CBO}$	Vdc	$I_C = -10\mu\text{A}, I_E = 0$	-40	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	Vdc	$I_E = -10\mu\text{A}, I_C = 0$	-5	
Collector cut-off current	$I_{CBO}$	$\mu\text{A}$	$V_{CB} = -40\text{Vdc}, I_E = 0$		-0.1
Collector cut-off current	$I_{CEX}$	nA	$V_{CE} = -30\text{Vdc}, V_{EB} = -3.0\text{Vdc}$		-50
Emitter cut-off current	$I_{EBO}$	$\mu\text{A}$	$V_{EB} = -3\text{Vdc}, I_C = 0$		-0.1
DC current gain	$h_{FE}$		$V_{CE} = -1\text{Vdc}, I_C = -0.1\text{mA}$	40	
	$h_{FE}$		$V_{CE} = -1\text{Vdc}, I_C = -1.0\text{mA}$	70	
	$h_{FE}$		$V_{CE} = -1\text{Vdc}, I_C = -10\text{mA}$	100	300
	$h_{FE}$		$V_{CE} = -1\text{Vdc}, I_C = -50\text{mA}$	60	
	$h_{FE}$		$V_{CE} = -1\text{Vdc}, I_C = -100\text{mA}$	30	
Collector-emitter saturation voltage	$V_{CE(sat)}$	Vdc	$I_C = -10\text{mA}, I_B = -1.0\text{mA}$		-0.25
			$I_C = -50\text{mA}, I_B = -5.0\text{mA}$		-0.4
Base-emitter saturation voltage	$V_{BE(sat)}$	Vdc	$I_C = -10\text{mA}, I_B = -1.0\text{mA}$	-0.65	-0.85
			$I_C = -50\text{mA}, I_B = -5.0\text{mA}$		-0.95
Transition frequency	$f_T$	MHz	$V_{CE} = -20\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$	250	-
Delay time	td	ns	$V_{CC} = -3.0\text{Vdc}, V_{BE} = -0.5\text{Vdc}, I_C = -10\text{mA}, I_{B1} = -1.0\text{mA}$		35
Rise time	tr	ns			35
Storage time	ts	ns	$V_{CC} = -3.0\text{Vdc}, I_C = -10\text{mA}, I_{B1} = I_{B2} = -1.0\text{mA}$		225
Fall time	tf	ns			75

## Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMST3906Q	F2	Approximate 0.006	3000	30000	120000	7" reel



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**Characteristics (Typical)**



