

## NPN General Purpose Amplifier

## MMBT2369A

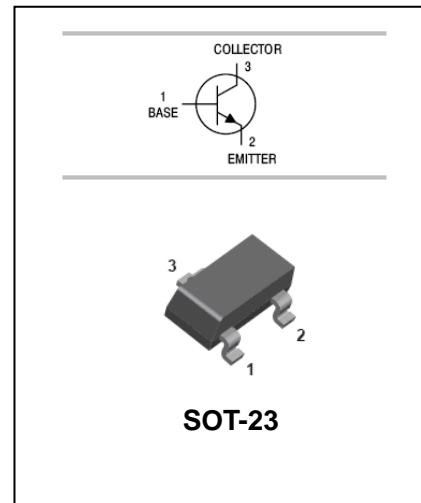
### FEATURES

- Epitaxial planar die construction.
- Ultra-small surface mount package.



### APPLICATIONS

- Use as a medium power amplifier.



### ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT2369A	1JA	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	15	V
$V_{EBO}$	Emitter-Base Voltage	4.5	V
$I_C$	Collector Current -Continuous	200	mA
$P_C$	Collector Dissipation	300	mW
$R_{\theta JA}$	Thermal resistance, junction to ambient	417	°C/W
$T_j, T_{stg}$	Junction and Storage Temperature	-55to+150	°C

**NPN General Purpose Amplifier****MMBT2369A****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	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	4.5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20V, I_E=0$			0.4	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=1.0V, I_C=10mA$			120	
		$V_{CE}=0.35V, I_C=10mA$	40			
		$V_{CE}=0.4V, I_C=30mA$	30			
		$V_{CE}=1.0V, I_C=100mA$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1.0mA$ $I_C=30mA, I_B=3.0mA$ $I_C=100mA, I_B=10mA$			0.2 0.25 0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1.0mA$ $I_C=30mA, I_B=3.0mA$ $I_C=100mA, I_B=10mA$	0.7		0.85 1.15 1.6	V
Output capacitance	$C_{obo}$	$V_{CB}=5V, I_E=0, f=1.0MHz$			4.0	pF
Storage time	$t_S$	$I_{B1}=I_{B2}=I_C=10mA$		5.0	13	ns
Turn-on time	$t_{on}$	$V_{CC}=3V, I_C=10mA,$ $I_{B1}=3mA$		8.0	12	ns
Turn-off time	$t_{off}$	$V_{CC}=3V, I_C=10mA,$ $I_{B1}=3mA, I_{B2}=1.5mA$		10	18	ns

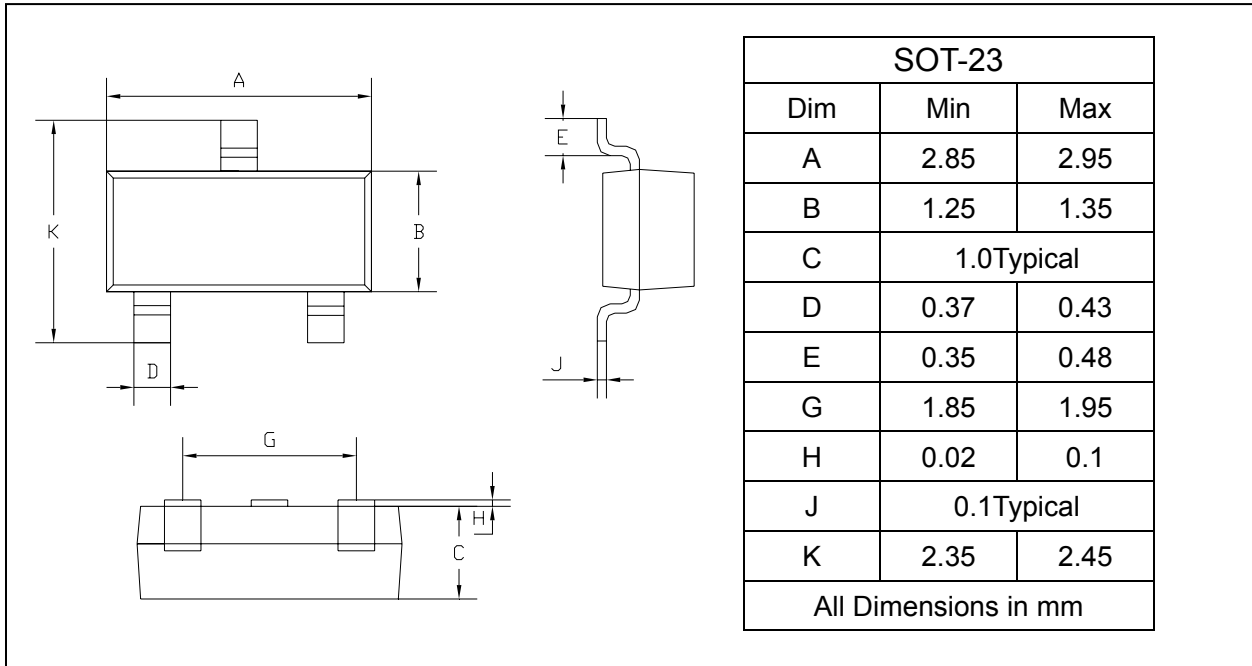
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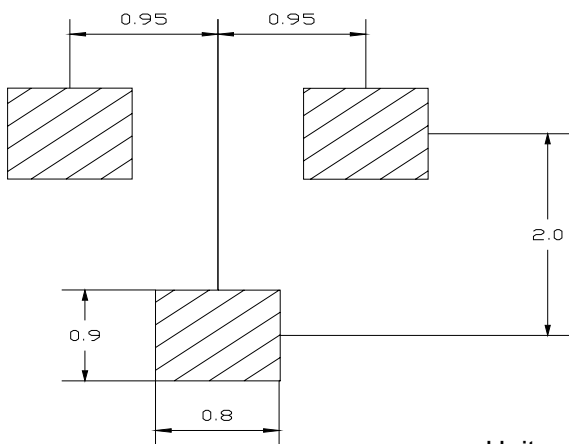
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



Unit: mm

### PACKAGE INFORMATION

Device	Package	Shipping
MMBT2369A	SOT-23	3000/Tape&Reel