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MMBR901

Description

- High Current-Gain – Bandwidth Products
- Low Noise Figure @ $f=1.0\text{GHz}$ – $NF_{(\text{matched})}=1.9\text{dB}$ (Typ)
- High Power Gain – $G_{pe(\text{matched})}=12.0\text{dB}$ (Typ) @ $f=1.0\text{GHz}$
- Operating & Storage Temperature: -55°C to $+150^{\circ}\text{C}$
- Marking Code: 7A

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CE0}	15	Vdc
Collector-Base Voltage	V_{CBO}	25	Vdc
Emitter-Base Voltage	V_{EBO}	2.0	Vdc
Collector Current - Continuous	I_c	30	mAdc
Thermal Resistance, Junction to Case	$R_{\theta JC}$	250	$^{\circ}\text{C/W}$
Power Dissipation @ $TC=75^{\circ}\text{C}$ (1) Derate above 75°C	$P_{D(\text{max})}$	0.300 4.0	Watt mW/ $^{\circ}\text{C}$

Electrical Characteristics @ 25°C Unless Otherwise Noted

Characteristics	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_c = 1.0\text{mAdc}$, $I_E = 0$)	$V_{(BR)CEO}$	15		Vdc
Collector-Base Breakdown Voltage ($I_c = 0.1\text{mAdc}$, $I_E = 0$)	$V_{(BR)CBO}$	25		Vdc
Emitter-Base Breakdown Voltage ($I_E = 0.1\text{mAdc}$, $I_c = 0$)	$V_{(BR)EBO}$	2.0		Vdc
Collector Cutoff Current ($V_{CB} = 15\text{Vdc}$, $I_E = 0$)	I_{CBO}		50	NAdc

ON CHARACTERISTICS

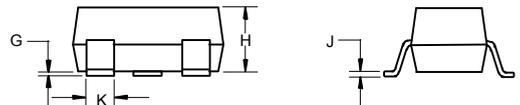
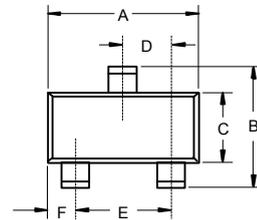
DC Current Gain ($I_c = 5.0\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$)	h_{FE}	50	200	
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SMALL-SIGNAL CHARACTERISTICS

Output Capacitance ($V_{CB} = 10\text{Vdc}$, $I_c = 5.0\text{mAdc}$, $f = 1.0\text{GHz}$)	Cobo		1.0	pF
Common-Emitter Amplifier Gain ($V_{CC} = 6.0\text{Vdc}$, $I_c = 5.0\text{mAdc}$, $f = 1.0\text{GHz}$)	G_{pe}		12	dB

Note: 1. Case temperature measured on collector lead immediately adjacent to body of package

NPN Silicon High-Frequency Transistor



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout

