Micro Commercial Components
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MMBR901

NPN Silicon High-Frequency Transistor

Description

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

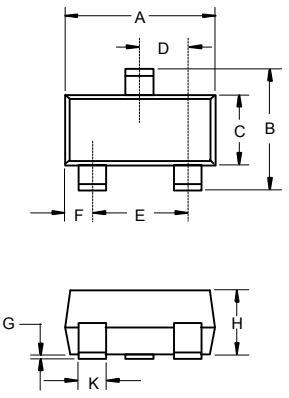
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	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	°C/W
Power Dissipation @ TC=75°C (1) Derate above 75°C	$P_{D(max)}$	0.300 4.0	Watt mW/°C

Electrical Characteristics @ 25°C Unless Otherwise Noted

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I_C = 1.0mAdc, I_B = 0)	$V_{(BR)CEO}$	15		Vdc
Collector-Base Breakdow n Voltage (I_C = 0.1mAdc, I_E = 0)	$V_{(BR)CBO}$	25		Vdc
Emitter-Base Breakdown Voltage (I_E = 0.1mAdc, I_C = 0)	$V_{(BR)EBO}$	2.0		Vdc
Collector Cutoff Current (V_{CB} = 15 Vdc, I_E = 0)	I_{CBO}		50	NAdc
ON CHARACTERISTICS				
DC Current Gain (I_C = 5.0 mAdc, V_{CE} = 5.0 Vdc)	h_{FE}	50	200	
SMALL-SIGNAL CHARACTERISTICS				
Output Capacitance (V_{CB} =10Vdc, I_C = 5.0 mAdc, f = 1.0 GHz)	Cobo		1.0	pF
Common-Emitter Amplifier Gain (V_{CC} =6.0Vdc, I_C = 5.0 mAdc, f = 1.0 GHz)	Gpe	12		dB

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



DIMENSIONS					
DIM	INCHES MIN	INCHES MAX	MM MIN	MM MAX	NOTE
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