The RF Line NPN Silicon High-Frequency Transistor

Designed for small-signal amplification at frequencies to 500 MHz. Specifically packaged for use in thick and thin-film circuits using surface mount components.

- High Gain Gpe = 15 dB Typ @ f = 200 MHz
- Low Noise NF = 4.5 dB Typ @ f = 200 MHz
- Available in tape and reel packaging options:
 T1 suffix = 3,000 units per reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	VCEO	15	Vdc
Collector-Base Voltage	VCBO	30	Vdc
Emitter–Base Voltage	VEBO	3.0	Vdc
Collector Current — Continuous	IC	50	mAdc
Maximum Junction Temperature	T _{Jmax}	150	°C
Power Dissipation, T _{case} = 75°C (1) Derate linearly above T _{case} = 75°C @	P _{D(max)}	0.375 5.00	W mW/°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Storage Temperature	T _{stg}	-55 to +150	°C
Thermal Resistance Junction to Case	$R_{\theta JC}$	200	°C/W

DEVICE MARKING

MMBR5179LT1 = 7H

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Тур	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I _C = 3.0 mAdc, I _B = 0)	V(BR)CEO	15	_	_	Vdc
Collector-Base Breakdown Voltage (I _C = 0.001 mAdc, I _E = 0)	V(BR)CBO	30	_	_	Vdc
Emitter–Base Breakdown Voltage (I _E = 0.01 mAdc, I _C = 0)	V _{(BR)EBO}	3.0	_	_	Vdc
Collector Cutoff Current (V _{CB} = 15 Vdc, I _E = 0)	ICBO	_	_	0.02	μAdc
ON CHARACTERISTICS	_				
DC Current Gain (I _C = 3.0 mAdc, V _{CE} = 1.0 Vdc)	hFE	30	_	250	_
Collector–Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc)	VCE(sat)	_	_	0.4	Vdc
Base–Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc)	V _{BE(sat)}		_	1.0	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current–Gain — Bandwidth Product (I _C = 5.0 mAdc, V _{CE} = 6.0 Vdc, f = 100 MHz)	fT	_	1,400	_	MHz
Collector–Base Capacitance ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 0.1 \text{ to } 1.0 \text{ MHz}$)	C _{cb}	_	_	1.0	pF
50 ohm Noise Figure (I $_{C}$ = 1.5 mAdc, V $_{CE}$ = 6.0 Vdc, R $_{S}$ = 50 $\Omega_{\rm t}$ f = 200 MHz)	NF	_	4.5	_	dB
Common–Emitter Amplifier Power Gain (V _{CE} = 6.0 Vdc, I _C = 5.0 mAdc, f = 200 MHz)	G _{pe}	_	15	_	dB

NOTE:

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

MMBR5179LT1

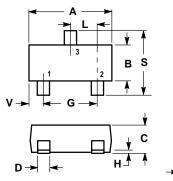
RF AMPLIFIER TRANSISTOR NPN SILICON



CASE 318–08, STYLE 6 SOT–23 LOW PROFILE (TO–236AA/AB)



PACKAGE DIMENSIONS





CASE 318-08 ISSUE AF

NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
 MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

	INC	HES	MILLIMETERS		
DIM	MIN	MAX	MIN	MAX	
Α	0.1102	0.1197	2.80	3.04	
В	0.0472	0.0551	1.20	1.40	
С	0.0350	0.0440	0.89	1.11	
D	0.0150	0.0200	0.37	0.50	
G	0.0701	0.0807	1.78	2.04	
Н	0.0005	0.0040	0.013	0.100	
J	0.0034	0.0070	0.085	0.177	
K	0.0140	0.0285	0.35	0.69	
L	0.0350	0.0401	0.89	1.02	
S	0.0830	0.1039	2.10	2.64	
٧	0.0177	0.0236	0.45	0.60	

STYLE 6: PIN 1. BASE 2. EMITTER 3. COLLECTOR

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