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Silicon NPN RF Transistor

BF775

DESCRIPTION

- Low Noise Figure
  NF = 1.8 dB TYP. @V_{CE} = 6 V, I_C = 2 mA, f = 900 MHz
- High Gain
  $|S_{21e}|^2$ = 12.5 dB TYP. @V_{CE}= 8 V,I_C = 15 mA,f = 900 MHz

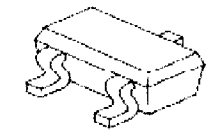
APPLICATIONS

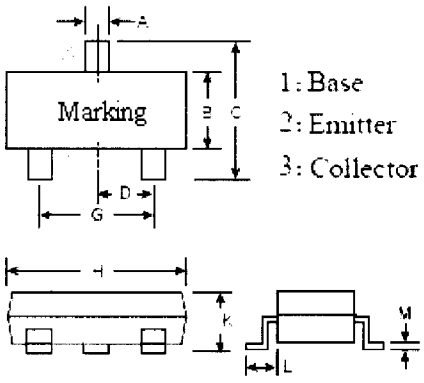
- Designed for use in TV-sat and UHF tuners.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CES}	Collector-Emitter Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current-Continuous	30	mA
I_B	Base Current-Continuous	4	mA
P_C	Collector Power Dissipation @T_C=25℃	0.28	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

SOT-23 package





DIM	mm MIN	mm MAX
A	0.37	0.51
B	1.19	1.30
C	2.10	2.50
D	0.89	1.05
G	1.78	2.05
H	2.65	3.05
K	1.10	1.30
L	0.35	0.61
M	0.076	0.178

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA ; I_B= 0	15			V
I_{CES}	Collector Cutoff Current	V_{CE}= 20V; V_{BE}= 0			10	μA
I_{CBO}	Collector Cutoff Current	V_{CB}= 10V; I_E= 0			0.1	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 2.5V; I_C= 0			0.1	μA
h_{FE}	DC Current Gain	I_C= 15mA ; V_{CE}= 8V	40		200	
f_T	Current-Gain—Bandwidth Product	I_C= 15mA ; V_{CE}= 8V; f= 500MHz	3.5	5		GHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V; f= 1MHz		0.38	0.6	pF
PG	Power Gain	I_C= 15mA ; V_{CE}= 8V; f= 900MHz		15		dB
PG	Power Gain	I_C= 15mA ; V_{CE}= 8V; f= 1.8GHz		9.5		dB
$\lvert S_{21e} \rvert^2$	Insertion Power Gain	I_C= 15mA ; V_{CE}= 8V; f= 900MHz		12.5		dB
$\lvert S_{21e} \rvert^2$	Insertion Power Gain	I_C= 15mA ; V_{CE}= 8V; f= 1.8GHz		7		dB
NF	Noise Figure	I_C= 2mA ; V_{CE}= 6V; f= 900MHz		1.8		dB
NF	Noise Figure	I_C= 2mA ; V_{CE}= 6V; f= 1.8GHz		2.9		dB