

GES2218A, 19A, GES2218, 19

Silicon Transistors



TO-92

The GE/RCA GES2218, A, 19, A series are planar epitaxial NPN silicon transistors designed for medium speed switches

and as amplifiers from audio to VHF frequencies. These types are supplied in JEDEC TO-92 package.

MAXIMUM RATINGS, Absolute-Maximum Values:

	GES2218 GES2219	GES2218A GES2219A	
COLLECTOR TO EMITTER VOLTAGE (V_{CE0})	30	40	V
EMITTER TO BASE VOLTAGE (V_{EB0})	5	6	V
COLLECTOR TO BASE VOLTAGE (V_{CB0})	60	75	V
CONTINUOUS COLLECTOR CURRENT (I_C)	800	800	mA
TOTAL POWER DISSIPATION $T_C \leq 25^\circ\text{C}$ (P_T)	3	1.8	W
TOTAL POWER DISSIPATION $T_A \leq 25^\circ\text{C}$ (P_T)	0.8	0.5	W
DERATE FACTOR, $T_C > 25^\circ\text{C}$	20	12	mW/°C
DERATE FACTOR, $T_A > 25^\circ\text{C}$	5.33	3.33	mW/°C
OPERATING TEMPERATURE (T_J)	-65° to +200		°C
STORAGE TEMPERATURE (T_{STG})	-65° to +200		°C
LEAD TEMPERATURE $1/16" \pm 1/32"$ (1.58mm $\pm$ 0.8mm) from case at 10s max. (T_L)	+260		°C

GES2218A, 19A, GES2218, 19

T.35-11

ELECTRICAL CHARACTERISTICS, At Ambient Temperature (T_A) = 25°C Unless Otherwise Specified

CHARACTERISTICS	SYMBOL	LIMITS				UNITS
		GES2218 GES2219		GES2218A GES2219A		
		MIN.	MAX.	MIN.	MAX.	
Collector-Emitter Breakdown Voltage ($I_C = 10\text{mA}$, $I_E = 0$)	BV_{ECO}	30	—	40	—	V
Collector-Base Breakdown Voltage ($I_C = 10\mu\text{A}$, $I_E = 0$)	BV_{CBO}	60	—	75	—	
Emitter-Base Breakdown Voltage ($I_E = 10\mu\text{A}$, $I_C = 0$)	BV_{EBO}	5	—	6	—	
Collector Cutoff Current ($V_{CB} = 50\text{V}$, $I_E = 0$)	I_{CBO}	—	0.01	—	—	μA
($V_{CB} = 60\text{V}$, $I_E = 0$)		—	—	—	0.01	
Emitter Cutoff Current ($V_{EB} = 3\text{V}$, $I_C = 0$)	I_{EBO}	—	—	—	10	nA
Collector-Emitter Saturation Voltage ($I_C = 150\text{mA}$, $I_B = 15\text{mA}$)	$V_{BE(SAT)}$	—	0.4	—	0.3	V
($I_C = 500\text{mA}$, $I_B = 50\text{mA}$)		—	1.6	—	1	
Base-Emitter Saturation Voltage ($I_C = 150\text{mA}$, $I_B = 15\text{mA}$)	$V_{BE(SAT)}$	0.6	2	0.6	1.2	
($I_C = 500\text{mA}$, $I_B = 50\text{mA}$)		—	2.6	—	2	
		GES2218 GES2218A		GES2219 GES2219A		
DC Forward Current Transfer Ratio ($I_C = 0.1\text{mA}$, $V_{CE} = 10\text{V}$)	h_{FE}	20	—	35	—	—
($I_C = 1\text{mA}$, $V_{CE} = 10\text{V}$)		25	—	50	—	
($I_C = 10\text{mA}$, $V_{CE} = 10\text{V}$)		35	—	75	—	
($I_C = 150\text{mA}$, $V_{CE} = 1\text{V}$)		20	—	50	—	
($I_C = 500\text{mA}$, $V_{CE} = 10\text{V}$)		20	—	40	—	
Gain Bandwidth Product ($I_C = 20\text{mA}$, $V_{CE} = 20\text{V}$, $f = 100\text{MHz}$)	f_T	250	—	250*	—	MHz

* f_T for 2219A = 300(min).TERMINAL CONNECTIONS

Lead 1 - Emitter

Lead 2 - Base

Lead 3 - Collector