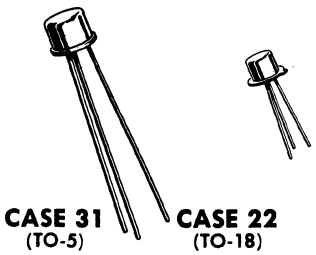
2N2958 (SILICON)
2N2959
2N3115
2N3116



CASE 31 (TO-5) 2N2958 2N2959

CASE 22 (TO-18) 2N3115 2N3116

Collector connected to case

NPN silicon annular Star transistors for high-speed switching and amplifier applications.

MAXIMUM RATINGS

Rating	Symbol	2N2958 2N2959 (TO-5)	2N3115 2N3116 (TO-18)	Unit
Collector-Base Voltage	V_{CB}	60	60	Vdc
Collector-Emitter Voltage	V_{CEO}	20	20	Vdc
Emitter-Base Voltage	V_{EB}	5.0	5.0	Vdc
Collector-Current	I_C	600	600	mAdc
Total Device Dissipation 25°C Case Temperature Derate above 25°C	P_D	 3.0 20	 1.8 12	 Watts mW/°C
Total Device Dissipation 25°C Ambient Temperature Derate above 25°C	P_D	 0.6 4.00	 0.4 2.67	 Watts mW/°C
Junction Temperature Range	T_J	-65 to +175		°C
Storage Temperature Range	T_{stg}	-65 to +200		°C

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

Characteristic	Symbol	Min	Max	Unit
Collector Cutoff Current (V_{CB} = 50 Vdc, I_E = 0) (V_{CB} = 50 Vdc, I_E = 0, T_A = 150°C)	I_{CBO}	 --- ---	 0.025 15	μAdc
Collector Cutoff Current (V_{CE} = 30 Vdc, V_{BE} = 0.5 Vdc)	I_{CEX}	---	.050	μAdc
Base Cutoff Current (V_{CE} = 30 Vdc, V_{BE} = 0.5 Vdc)	I_{BL}	---	.050	μAdc
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)	BV_{CBO}	60	---	Vdc
Collector-Emitter Breakdown Voltage [1] (I_C = 10 mAdc, pulsed, I_B = 0)	BV_{CEO}	20	---	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)	BV_{EBO}	5.0	---	Vdc
Collector Saturation Voltage [1] (I_C = 150 mAdc, I_B = 15 mAdc)	V_{CE} (sat)	---	0.5	Vdc
Base-Emitter Saturation Voltage [1] (I_C = 150 mAdc, I_B = 15 mAdc)	V_{BE} (sat)	---	1.3	Vdc
DC Forward Current Transfer Ratio (I_C = 150 mAdc, 2N2958, 2N3115 V_{CE} = 10 Vdc) 2N2959, 2N3116	h_{FE}	40 100	120 300	---
Common-Base Open Circuit Output Capacitance (V_{CB} = 10 V, I_E = 0, f = 100 kHz)	C_{ob}	---	8.0	pF
Delay Time (V_{CC} = 30 V, I_{CS} = 150 mA, I_{B1} = 15 mA)	t_d	---	20	ns
Rise Time (V_{CC} = 30 V, I_{CS} = 150 mA, I_{B1} = 15 mA)	t_r	---	75	ns
Storage Time (V_{CC} = 6 V, I_{CS} = 150 mA, I_{B1} = 15 mA, I_{B2} = 15 mA)	t_s	---	300	ns
Fall Time (V_{CC} = 6 V, I_{CS} = 150 mA, I_{B1} = 15 mA, I_{B2} = 15 mA)	t_f	---	200	ns
Current Gain-Bandwidth Product (I_C = 20 mA, V_{CE} = 20 V, f = 100 MHz)	f_T	250	---	MHz

[1] PULSE TEST: Pulse width ≤ 300 μs, duty cycle ≤ 2%

2N2972 thru 2N2979

For Specifications, See 2N2913 Data.