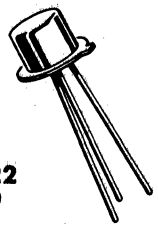
2N827 (GERMANIUM)



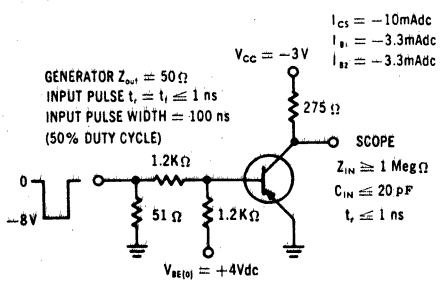
CASE 22
(TO-18)

Collector connected to case

PNP germanium mesa transistor for high-speed switching applications.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CB}	20	Vdc
Collector-Emitter Voltage	V_{CES}	20	Vdc
Collector-Emitter Voltage	V_{CEX}	10	Vdc
Emitter-Base Voltage	V_{EB}	4.0	Vdc
Collector Current (Continuous)	I_C	100	mAdc
Junction Temperature	T_J	+100	^oC
Storage Temperature	T_{stg}	-65 to + 100	^oC
Device Dissipation @ 25^{o}C Ambient Temperature (Derate 2mW/^{o}C above 25^{o}C)	P_D	150 2.0	mW mW/° C



SWITCHING TIME TEST CIRCUIT

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

Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	BV_{CBO}	20	22	---	Vdc
Collector-Emitter Breakdown Voltage (I_C = 100 μAdc, V_{EB} = 0)	BV_{CES}	20	22	---	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)	BV_{EBO}	4	5.0	---	Vdc
Collector Latch-up Voltage	LV_{CEX}	10	---	---	Vdc
Collector-Emitter Cutoff Current (V_{CE} = 15 Vdc, V_{EB} = 0)	I_{CES}	---	0.5	5.0	μAdc
Collector-Base Cutoff Current (V_{CB} = 15 Vdc)	I_{CBO}	---	0.5	5.0	μAdc
DC Forward Current Transfer Ratio (I_C = 10 mAdc, V_{CE} = 0.3 Vdc)	h_{FE}	100	150	---	---
Collector-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 3.3 mAdc)	$V_{CE(sat)}$	---	0.16	0.25	Vdc
Base-Emitter Voltage (I_C = 10 mAdc, I_B = 3.3 mAdc)	V_{BE}	---	0.39	0.5	Vdc
Small-Signal Forward Current Transfer Ratio (I_C = 10 mA, V_{CE} = 1 V, f = 100 MHz)	h_{fe}	2.5	3.5	---	---
Collector Output Capacitance (V_{CB} = 10 V, I_E = 0, f = 1 MHz)	C_{ob}	---	4.0	9.0	pF
Delay Time	t_d	---	10	15	ns
Rise Time	t_r	---	10	20	ns
Storage Time	t_s	---	15	30	ns
Fall Time	t_f	---	15	30	ns