2N696 (SILICON)
2N697

CASE 31
(TO-5)

NPN silicon annular transistors designed for small-signal amplifier and general purpose switching applications.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CER}	40	Vdc
Collector-Base Voltage	V_{CB}	60	Vdc
Emitter-Base Voltage	V_{EB}	5.0	Vdc
Total Device Dissipation @ T_A = 25°C	P_D	0.6	Watt
Derate above 25°C		13.3	mW/°C
Total Device Dissipation @ T_C = 25°C	P_D	2.0	Watts
Derate above 25°C		13.3	mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	°C

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage* (I_C = 100 mAdc, R_{BE} = 10 ohms)		BV_{CER}*	40		Vdc
Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)		BV_{CBO}	60		Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		BV_{EBO}	5.0		Vdc
Collector Cutoff Current (V_{CB} = 30 Vdc, I_E = 0)		I_{CBO}	-	1.0	μAdc
(V_{CB} = 30 Vdc, I_E = 0, T_A = 150°C)			-	100	
ON CHARACTERISTICS					
DC Current Gain* (I_C = 150 mAdc, V_{CE} = 10 Vdc)	2N696	h_{FE}*	20	60	-
	2N697		40	120	
Collector-Emitter Saturation Voltage* (I_C = 150 mAdc, I_B = 15 mAdc)		$V_{CE(sat)}$*	-	1.5	Vdc
Base-Emitter Saturation Voltage* (I_C = 150 mAdc, I_B = 15 mAdc)		$V_{BE(sat)}$*	-	1.3	Vdc
DYNAMIC CHARACTERISTICS					
Current Gain-Bandwidth Product (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)	2N696	f_T	40	-	MHz
	2N697		50	-	
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0)		C_{ob}	-	35	pF

* Pulse Test: Pulse Length ≤ 12 ms, Duty Cycle ≤ 2.0%.