MOTOROLA

2N735 (SILICON)
2N736
2N739
2N740

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CASE 22
(TO-18)

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

Collector electrically connected to case

MAXIMUM RATINGS

Rating	Symbol	2N735 2N736	2N739 2N740	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	Vdc
Collector-Base Voltage	V_{CB}	80	125	Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
Collector Current	I_C	1.0		Adc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	500 2.86		mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		°C

Lead Temperature, 1/16" ± 1/32" from case for 10 s.

2N735, 2N736, 2N739, 2N740 (Continued)

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage* (I_C = 10 mAdc, I_B = 0)	2N735, 2N736 2N739, 2N740	BV_{CEO}*	60 80	- -	Vdc
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)	2N735, 2N736 2N739, 2N740	BV_{CBO}	80 125	- -	Vdc
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)		BV_{EBO}	5.0	-	Vdc
Collector Cutoff Current (V_{CB} = 40 Vdc, I_E = 0)		I_{CBO}	-	1.0	μAdc
Emitter Cutoff Current (V_{BE} = 5.0 Vdc, I_C = 0)		I_{EBO}	-	10	μAdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 5.0 mAdc, V_{CE} = 5.0 Vdc)	2N735, 2N739 2N736, 2N740	h_{FE}	30 60	100 200	-
Collector-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 2.0 mAdc)		$V_{CE(sat)}$	-	1.0	Vdc
Base-Emitter Voltage (I_C = 10 mAdc, I_B = 2.0 mAdc)		V_{BE}	0.35	1.5	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Output Capacitance (V_{CB} = 5.0 Vdc, I_E = 0, f = 1.0 MHz)		C_{ob}	-	10	pF
Input Impedance (I_C = 5.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz)	2N735, 2N739 2N736, 2N740	h_{ie}	- -	1500 1800	Ohm
Small-Signal Current Gain (I_C = 5.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 Hz)	2N735, 2N739 2N736, 2N740	h_{fe}	40 80	100 200	-

* Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

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