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MPSA42

Silicon Complementary Transistors

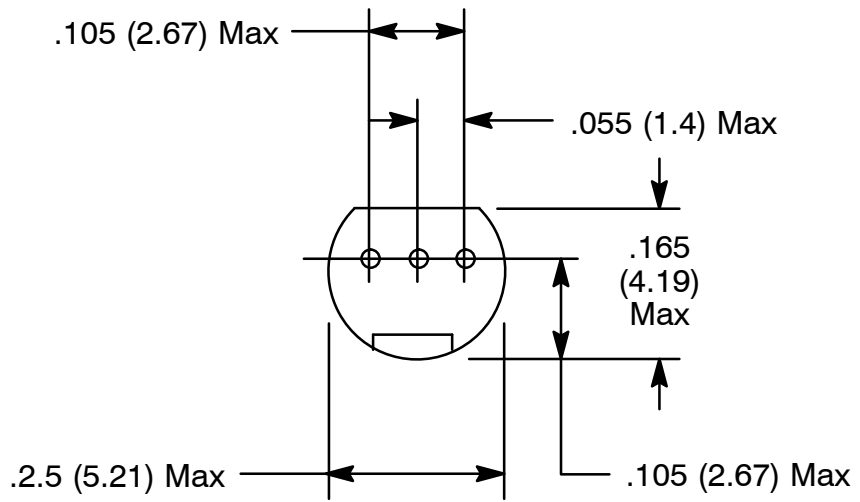
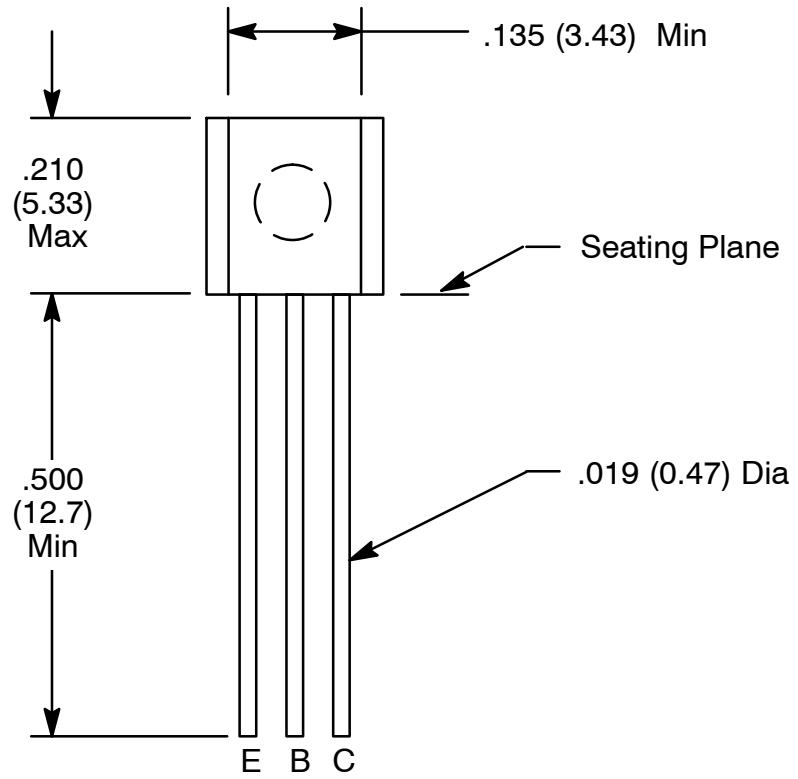
High Voltage, General Purpose Amplifier

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Collector–Emitter Voltage, V_{CEO}	300V
Collector–Base Voltage, V_{CBO}	300V
Emitter–Base Voltage, V_{EBO}	5V
Continuous Collector Current, I_C	500mA
Collector Power Dissipation, P_C	625mW
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	–55° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC}	83.3°C
Thermal Resistance, Junction–to–Ambient, R_{thJA}	200°C/W

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $I_B = 0$	300	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	300	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	5	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 200\text{V}$, $I_E = 0$	–	–	0.25	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$	–	–	0.1	μA
ON Characteristics						
DC Current Gain	h_{fe}	$I_C = 1\text{mA}$, $V_{CE} = 10\text{V}$ $I_C = 10\text{mA}$, $V_{CE} = 10\text{V}$ $I_C = 30\text{mA}$, $V_{CE} = 10\text{V}$	60 80 75	– – –	– 250 –	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 20\text{mA}$, $I_B = 2\text{mA}$	–	–	0.2	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 20\text{mA}$, $I_B = 2\text{mA}$	–	–	0.9	V
Transition Frequency	f_T	$V_{CE} = 20\text{V}$, $I_C = 10\text{mA}$, $f = 30\text{MHz}$	50	–	–	MHz



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