

# Transistors

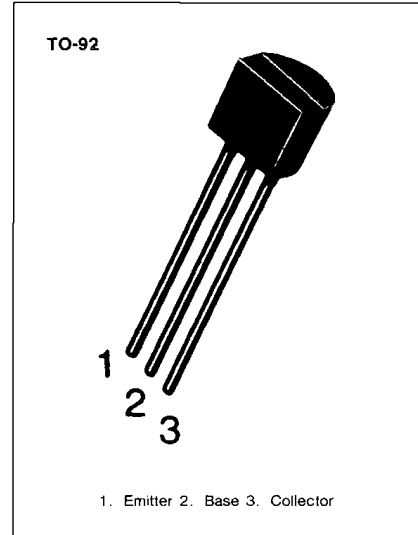
## 2N6428

### AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage:  $V_{CE0} = 50V$
- Collector Dissipation:  $P_c (\text{max}) = 625mW$

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_c$	200	mA
Collector Dissipation	$P_c$	625	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 ~ 150	$^\circ C$



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	60			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 1mA, I_B = 0$	50			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 30V, I_E = 0$			10	nA
Collector Cut-off Current	$I_{CEO}$	$V_{CE} = 30V, I_B = 0$			25	nA
Base Cut-off Current	$I_{EBO}$	$V_{BE} = 5V, I_C = 0$			10	nA
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 10\mu A$	250			
		$V_{CE} = 5V, I_C = 100\mu A$	250		650	
		$V_{CE} = 5V, I_C = 1mA$	250			
		$V_{CE} = 5V, I_C = 10mA$	250			
Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = 10mA, I_B = 0.5mA$			0.2	V
		$I_C = 100mA, I_B = 5mA$			0.6	V
Base-Emitter On Voltage	$V_{BE} (\text{on})$	$I_C = 1mA, V_{CE} = 5V$	0.56		0.66	V
Output Capacitance	$C_{OB}$	$V_{CB} = 10V, I_E = 0$ $f = 1MHz$			3	pF
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 5V, I_C = 1mA$	100		700	MHz
Noise Figure/Noise Voltage Level	$N_F/N_V$	$V_{CE} = 5V, I_C = 100\mu A$ (1) $R_S = 10K\Omega, B_W = 1Hz$ $f = 100Hz$			3/18.1	dB/nV
		(2) $R_S = 50K\Omega, B_W = 15.7KHz$ $f = 10Hz - 10KHz$			6/5.7	dB/nV
		(3) $R_S = 500\Omega, B_W = 1Hz$ $f = 10Hz$			3.5/4.3	dB/nV

