

isc Silicon PNP Power Transistors
TIP42/42A/42B/42C
DESCRIPTION

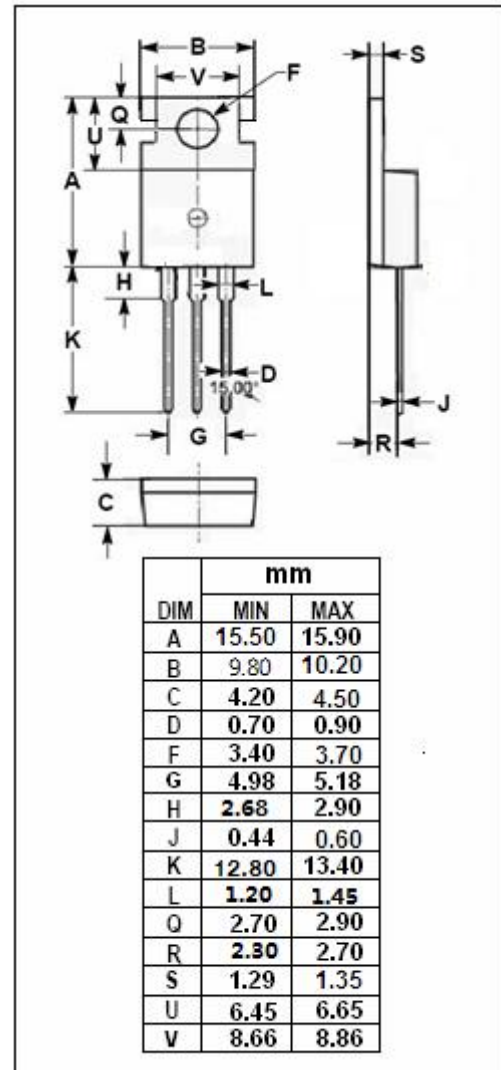
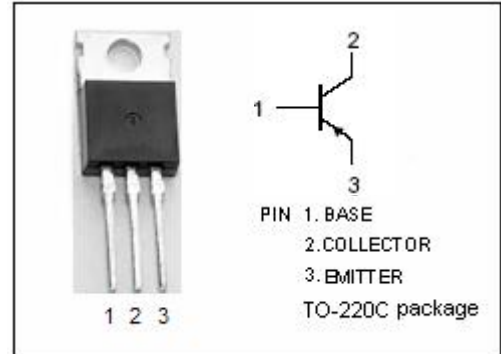
- DC Current Gain $-h_{FE} = 30(\text{Min})@ I_C = -0.3A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -40V(\text{Min})$ - TIP42; $-60V(\text{Min})$ - TIP42A
 $-80V(\text{Min})$ - TIP42B; $-100V(\text{Min})$ - TIP42C
- Complement to Type TIP41/41A/41B/41C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in general purpose amplifier and switching applications

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	TIP42	-40
		TIP42A	-60
		TIP42B	-80
		TIP42C	-100
V_{CEO}	Collector-Emitter Voltage	TIP42	-40
		TIP42A	-60
		TIP42B	-80
		TIP42C	-100
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-6	A
I_{CM}	Collector Current-Peak	-10	A
I_B	Base Current	-2	A
P_C	Collector Power Dissipation $T_c=25^\circ\text{C}$	65	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	2	
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



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TIP42/42A/42B/42C
ELECTRICAL CHARACTERISTICS
 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT	
$V_{CE(SUS)}$ *	Collector-Emitter Sustaining Voltage	TIP42	$I_C = -30\text{mA}; I_B = 0$	-40	V	
		TIP42A		-60		
		TIP42B		-80		
		TIP42C		-100		
$V_{CE(sat)}$ *	Collector-Emitter Saturation Voltage	$I_C = -6\text{A}; I_B = -0.6\text{A}$		-1.5	V	
$V_{BE(on)}$ *	Base-Emitter On Voltage	$I_C = -6\text{A}; V_{CE} = -4\text{V}$		-2.0	V	
I_{CBO}	Collector Cutoff Current	TIP42		-0.4	mA	
		TIP42A				$V_{CB} = -40\text{V}; V_{EB} = 0$
		TIP42B				$V_{CB} = -60\text{V}; V_{EB} = 0$
		TIP42C				$V_{CB} = -80\text{V}; V_{EB} = 0$
I_{CEO}	Collector Cutoff Current	TIP42/42A		-0.7	mA	
		TIP42B/42C				$V_{CE} = -30\text{V}; I_B = 0$
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$		-1.0	mA	
h_{FE-1} *	DC Current Gain	$I_C = -0.3\text{A}; V_{CE} = -4\text{V}$	30			
h_{FE-2} *	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -4\text{V}$	15	75		
f_T	Current-Gain—Bandwidth Product	$I_C = -0.5\text{A}; V_{CE} = -10\text{V}$	3		MHz	

 * Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$
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