

INCHANGE Semiconductor

isc Product Specification

isc Silicon PNP Power Transistors

TIP42/42A/42B/42C

DESCRIPTION

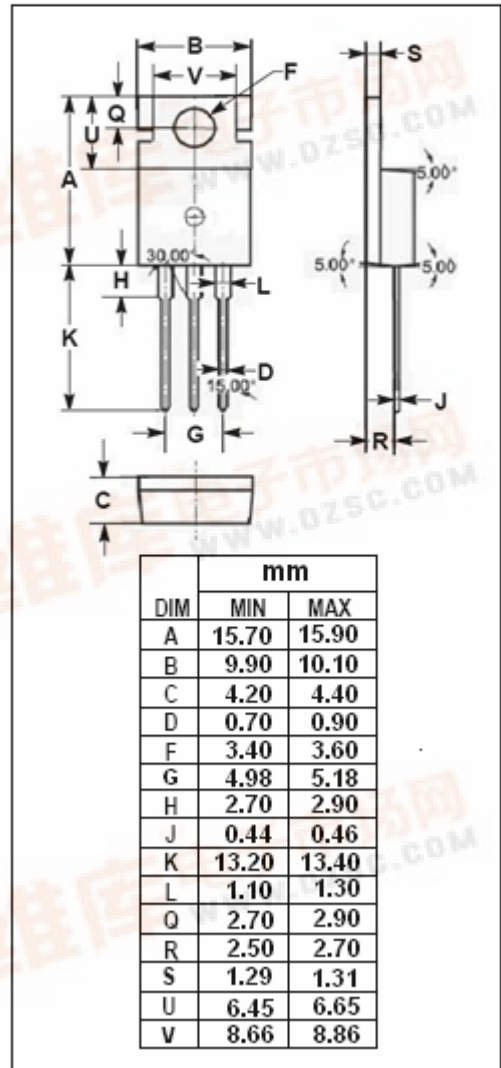
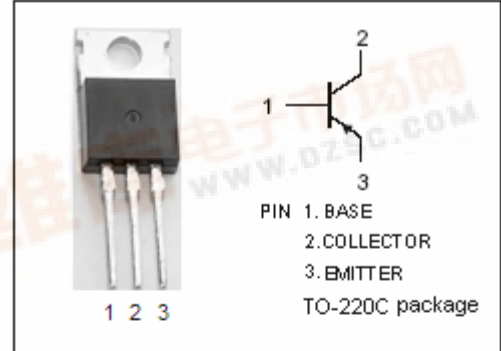
- DC Current Gain $-h_{FE} = 30(\text{Min}) @ I_C = -0.3\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -40\text{V}(\text{Min})$ - TIP42; $-60\text{V}(\text{Min})$ - TIP42A
 $-80\text{V}(\text{Min})$ - TIP42B; $-100\text{V}(\text{Min})$ - TIP42C
- Complement to Type TIP41/41A/41B/41C

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	V
		TIP42A	-60	
		TIP42B	-80	
		TIP42C	-100	
V_{CEO}	Collector-Emitter Voltage	TIP42	-40	V
		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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ELECTRICAL CHARACTERISTICS

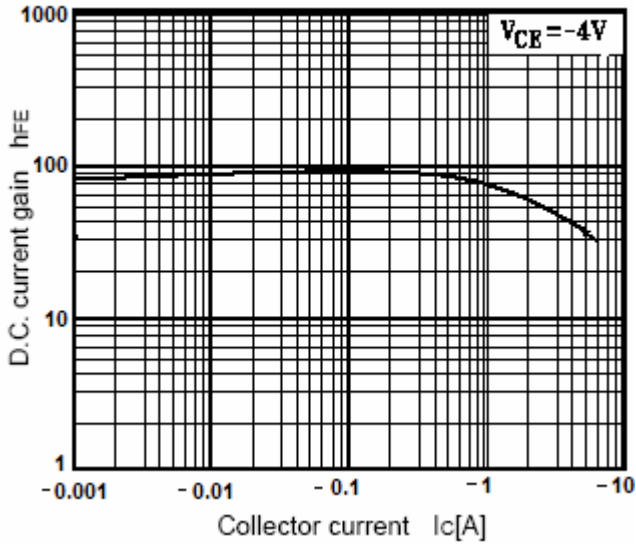
 $T_C=25^\circ\text{C}$ unless otherwise specified

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_{CES}	Collector Cutoff Current	TIP42		-0.4	mA	
		TIP42A				$V_{CE} = -40\text{V}; V_{EB} = 0$
		TIP42B				$V_{CE} = -60\text{V}; V_{EB} = 0$
		TIP42C				$V_{CE} = -80\text{V}; V_{EB} = 0$
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	

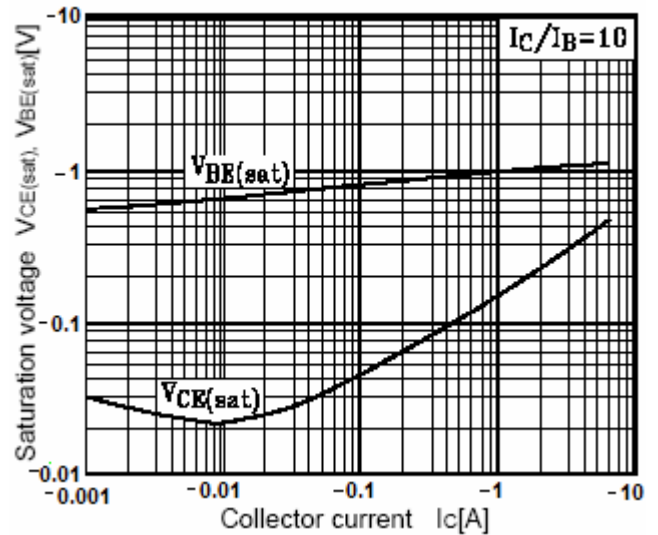
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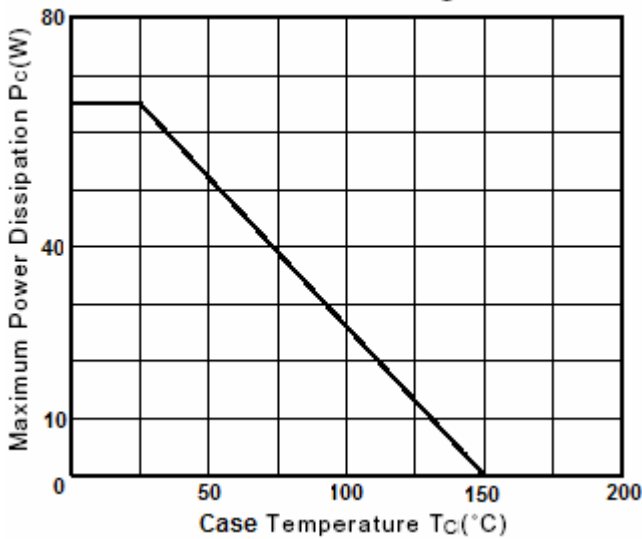
$h_{FE}-I_C$ Characteristics



$V_{CE(sat)}-I_C$ & $V_{BE(sat)}-I_C$ Characteristics



Power Derating



Safe Operating Area

