

isc Silicon PNP Power Transistors

TIP42/42A/42B/42C

DESCRIPTION

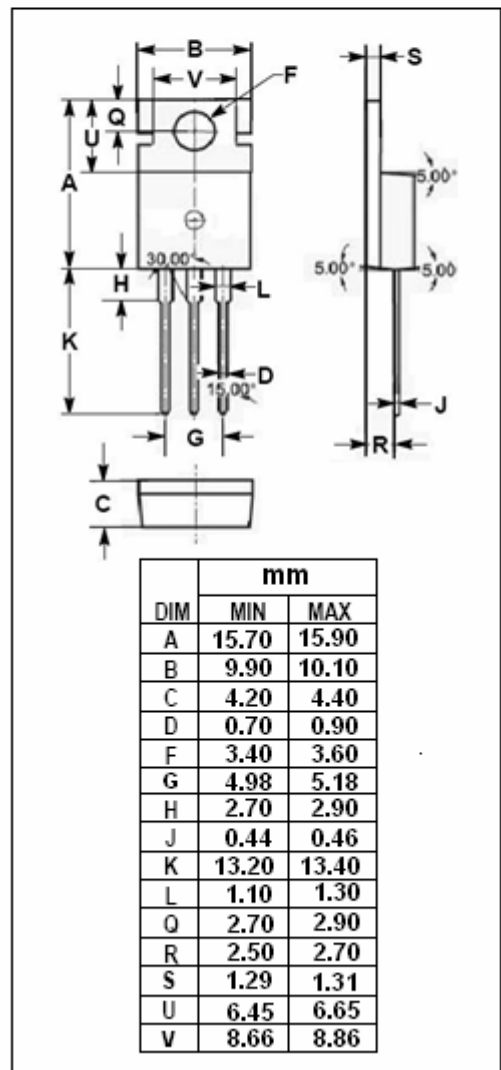
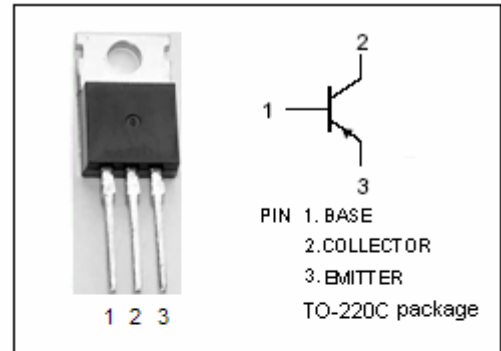
- DC Current Gain  $-h_{FE} = 30(\text{Min}) @ I_C = -0.3\text{A}$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = -40\text{V}(\text{Min})$ - TIP42;  $-60\text{V}(\text{Min})$ - TIP42A  
 $-80\text{V}(\text{Min})$ - TIP42B;  $-100\text{V}(\text{Min})$ - TIP42C
- Complement to Type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



## isc Silicon PNP Power Transistors

## TIP42/42A/42B/42C

## ELECTRICAL CHARACTERISTICS

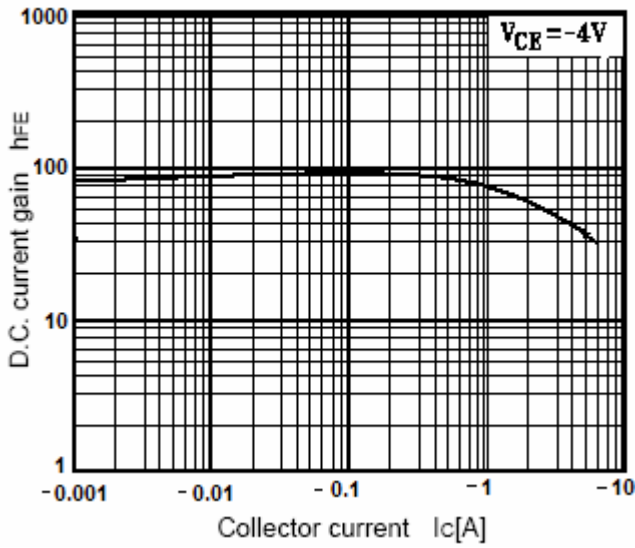
 $T_C=25^\circ\text{C}$  unless otherwise specified

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
$I_{CES}$	Collector Cutoff Current	TIP42	$V_{CE} = -40\text{V}; V_{EB} = 0$		-0.4	mA
		TIP42A	$V_{CE} = -60\text{V}; V_{EB} = 0$			
		TIP42B	$V_{CE} = -80\text{V}; V_{EB} = 0$			
		TIP42C	$V_{CE} = -100\text{V}; V_{EB} = 0$			
$I_{CEO}$	Collector Cutoff Current	TIP42/42A	$V_{CE} = -30\text{V}; I_B = 0$		-0.7	mA
		TIP42B/42C	$V_{CE} = -60\text{V}; I_B = 0$			
$I_{EBO}$	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

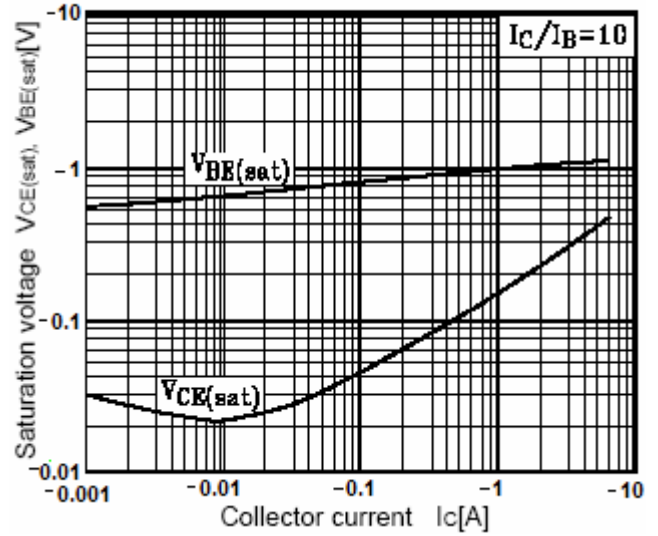
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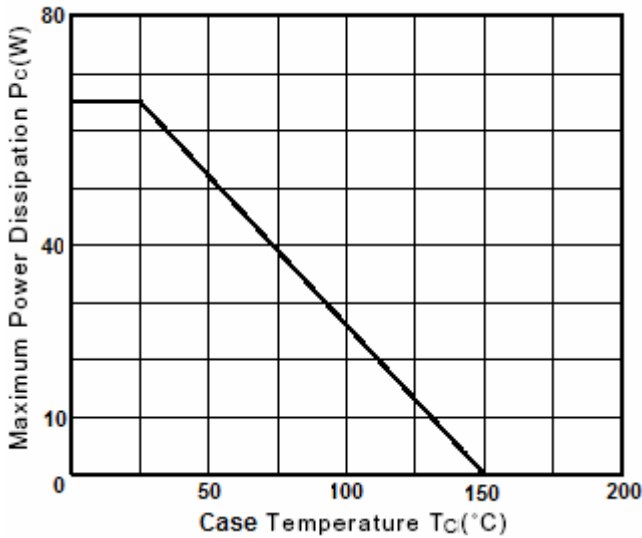
$h_{FE}-I_C$  Characteristics



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



Power Derating



Safe Operating Area

