

SPTECH Product Specification

SPTECH Silicon NPN Power Transistors TIP41/41A/41B/41C

DESCRIPTION

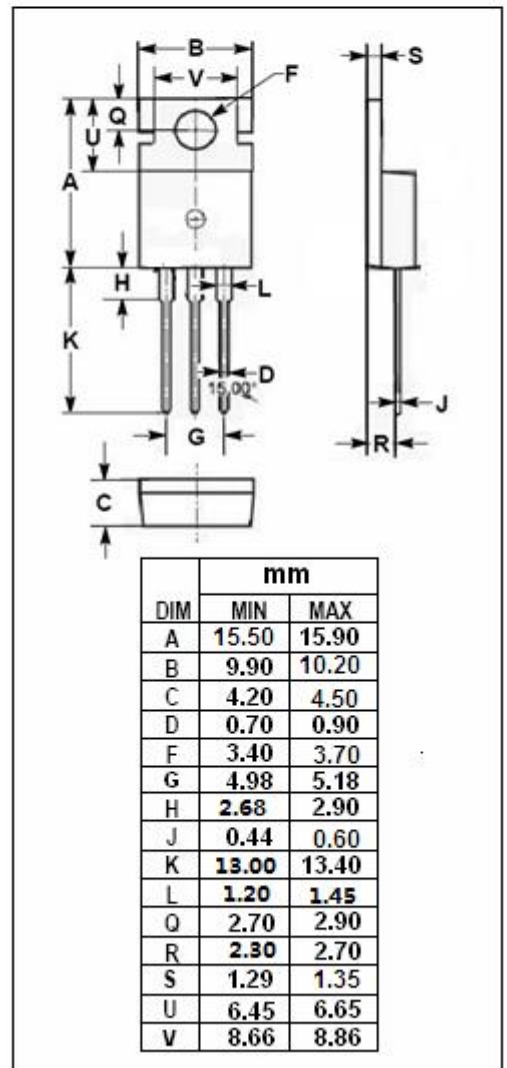
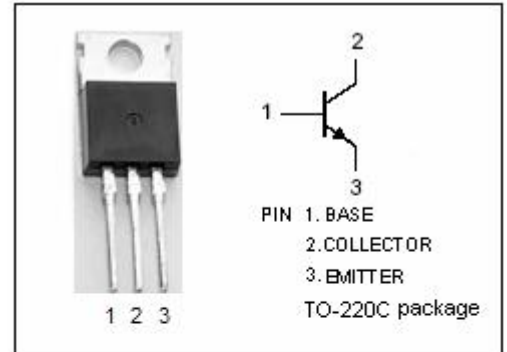
- DC Current Gain $-h_{FE} = 30(\text{Min})@ I_C = -0.3\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 40\text{V}(\text{Min})$ - TIP41; $60\text{V}(\text{Min})$ - TIP41A
 $80\text{V}(\text{Min})$ - TIP41B; $100\text{V}(\text{Min})$ - TIP41C
- Complement to Type TIP42/42A/42B/42C

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	TIP41	40	V
		TIP41A	60	
		TIP41B	80	
		TIP41C	100	
V_{CEO}	Collector-Emitter Voltage	TIP41	40	V
		TIP41A	60	
		TIP41B	80	
		TIP41C	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
$V_{CEO(SUS)}$ *	Collector-Emitter Sustaining Voltage	TIP41	$I_C=30\text{mA}; I_B=0$	40		V
		TIP41A		60		
		TIP41B		80		
		TIP41C		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	TIP41	$V_{CE}=40\text{V}; V_{EB}=0$		0.4	mA
		TIP41A	$V_{CE}=60\text{V}; V_{EB}=0$			
		TIP41B	$V_{CE}=80\text{V}; V_{EB}=0$			
		TIP41C	$V_{CE}=100\text{V}; V_{EB}=0$			
I_{CEO}	Collector Cutoff Current	TIP41/41A	$V_{CE}=30\text{V}; I_B=0$		0.7	mA
		TIP41B/41C	$V_{CE}=60\text{V}; I_B=0$			
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

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