

**isc Silicon PNP Power Transistors**

**TIP42C**

**DESCRIPTION**

- DC Current Gain  $-h_{FE} = 30(\text{Min})@ I_C = -0.3\text{A}$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = -100\text{V}(\text{Min})$
- Complement to Type TIP41C
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

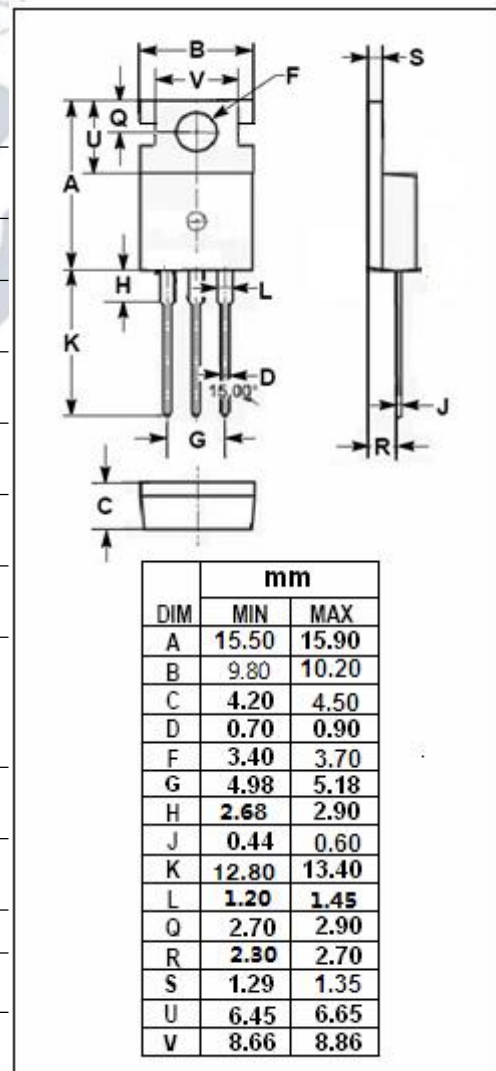
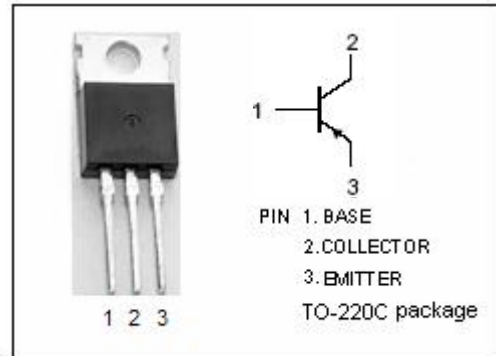
- Designed for use in general purpose amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-100	V
$V_{CEO}$	Collector-Emitter Voltage	-100	V
$V_{EBO}$	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	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.92	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$



**isc Silicon PNP Power Transistors****TIP42C****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -30\text{mA}; I_B = 0$	-100		V
$V_{CE(sat)}$	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	$V_{CB} = -100\text{V}; I_E = 0$		-0.4	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -60\text{V}; I_B = 0$		-0.7	mA
$I_{EBO}$	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