

**SPTECH Silicon PNP Darlington Power Transistor**

**TIP137**

**DESCRIPTION**

- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min}) @ I_C = -4\text{A}$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = -100\text{V}(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = -2.0\text{V}(\text{Max}) @ I_C = -4\text{A}$
- Complement to Type TIP132

**APPLICATIONS**

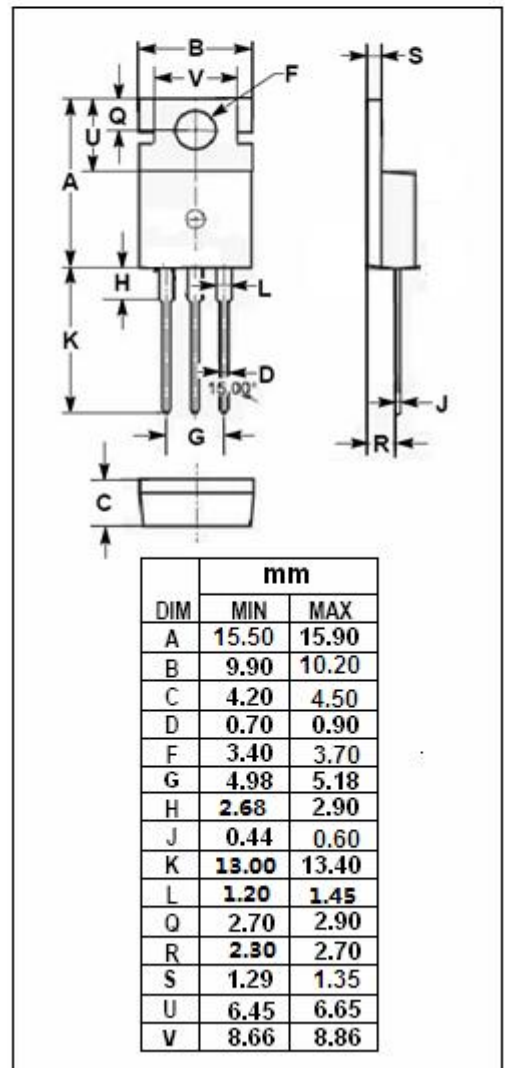
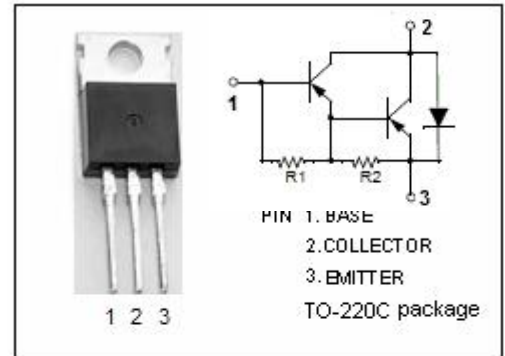
- Designed for general-purpose amplifier and low-speed switching applications

**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	-8	A
$I_{CM}$	Collector Current-Peak	-12	A
$I_B$	Base Current- Continuous	-0.3	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	70	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	1.785	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	63.5	$^\circ\text{C/W}$



**SPTECH Silicon PNP Darlington Power Transistor  
TIP137**

**ELECTRICAL CHARACTERISTICS**

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -30mA, I <sub>B</sub> = 0	-100		V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -16mA		-2.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -6A, I <sub>B</sub> = -30mA		-3.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -4A; V <sub>CE</sub> = -4V		-2.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -100V, I <sub>E</sub> = 0		-0.2	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = -50V, I <sub>B</sub> = 0		-0.5	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V; I <sub>C</sub> = 0		-5	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -1A; V <sub>CE</sub> = -4V	500		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -4A; V <sub>CE</sub> = -4V	1000	15000	