

isc Silicon PNP Darlington Power Transistor

TIP117

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 1000(\text{Min}) @ I_C = -1A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -100V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = -2.5V(\text{Max}) @ I_C = -2A$
- Complement to Type TIP112
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

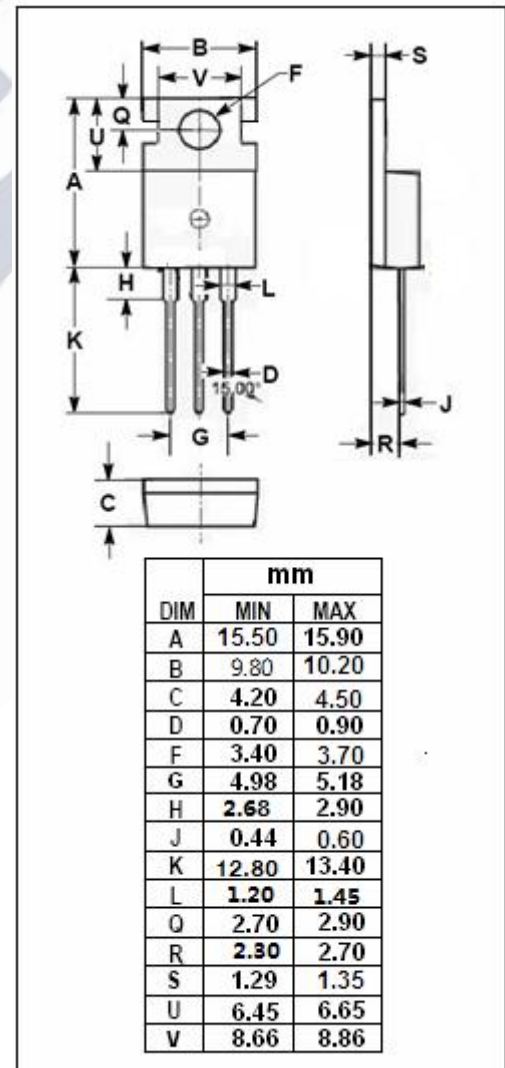
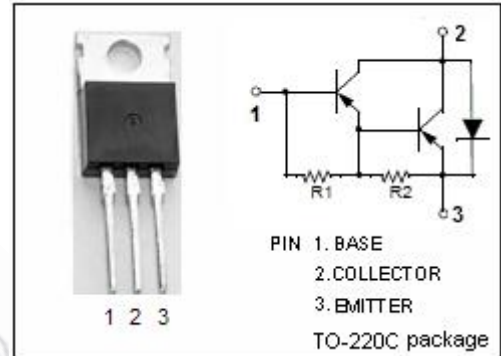
- Designed for general-purpose amplifier and low-speed switching applications

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	-2	A
I_{CM}	Collector Current-Peak	-4	A
I_B	Base Current	-50	mA
P_C	Collector Power Dissipation $T_C = 25^\circ\text{C}$	50	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	2.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



isc Silicon PNP Darlington Power Transistor**TIP117****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = -30mA, I _B = 0	-100			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -2A, I _B = -8mA			-2.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = -2A; V _{CE} = -4V			-2.8	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -100V, I _E = 0			-1.0	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = -50V, I _B = 0			-2.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = -5V; I _C = 0			-2.0	mA
h _{FE-1}	DC Current Gain	I _C = -1A; V _{CE} = -4V	1000			
h _{FE-2}	DC Current Gain	I _C = -2A; V _{CE} = -4V	500			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = -10V, f= 0.1MHz			200	pF