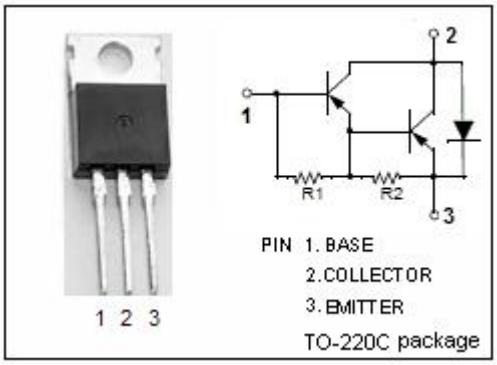
isc Silicon PNP Darlington Power Transistor TIP145T



DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 1000(Min)@ I_C= -5A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -60V(Min)
- Complement to Type TIP140T
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

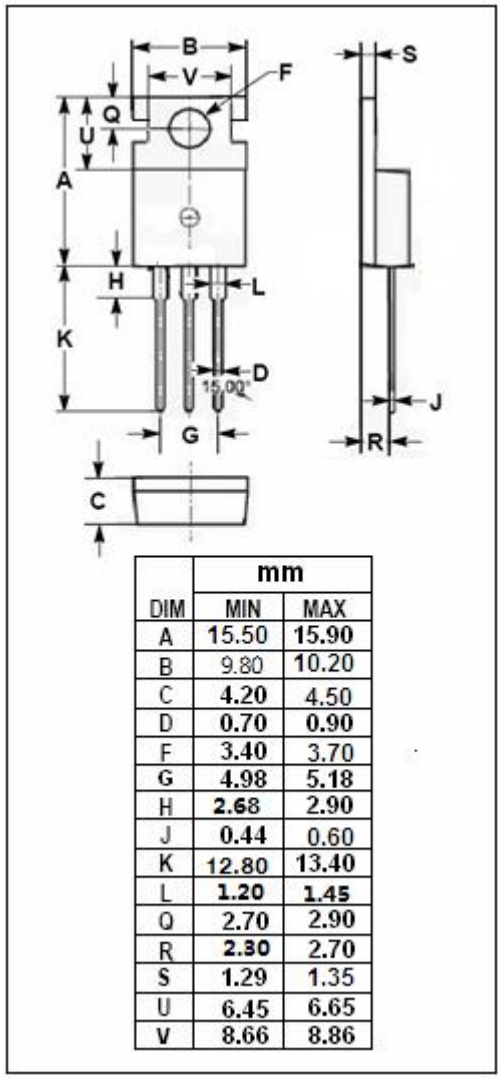
- Designed for general purpose amplifier and low frequency switching applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-10	A
I_{CM}	Collector Current-Peak	-15	A
I_B	Base Current- Continuous	-0.5	A
P_C	Collector Power Dissipation @T_C=25℃	80	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.56	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= -30mA, I_B= 0	-60			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= -5A ,I_B= -10mA			-2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= -10A ,I_B= -40mA			-3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= -10A ,I_B= -40mA			-3.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= -10A ; V_{CE}= -4V			-3.0	V
I_{CBO}	Collector Cutoff current	V_{CB}= -60V, I_E= 0			-1	mA
I_{CEO}	Collector Cutoff current	V_{CE}= -30V, I_B= 0			-2	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C= 0			-2	mA
h_{FE-1}	DC Current Gain	I_C= -5A ; V_{CE}= -4V	1000			
h_{FE-2}	DC Current Gain	I_C= -10A ; V_{CE}= -4V	500			
Switching Times						
t_d	Delay Time	V_{CC}= -30 V, I_C= - 5.0 A, I_{B1}= -I_{B2} = -20 mA; t_p= 20 μs Duty Cycle≤20%		0.15		μs
t_r	Rise Time			0.55		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			2.5		μs

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