

isc Silicon PNP Power Transistor

TIP514

DESCRIPTION

- Continuous Collector Current- $I_C = -5A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -150V(\text{Min.})$
- Collector Power Dissipation-
: $P_C = 20W @ T_C \leq 100^\circ C$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

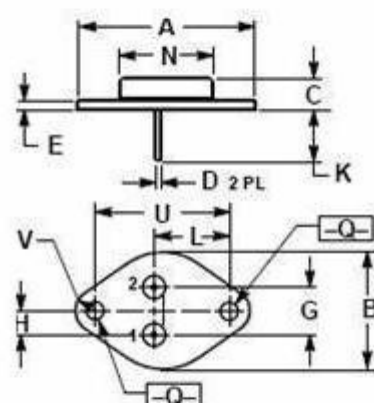
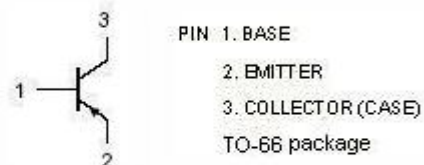
- Designed for power amplifier and high speed switching applications.

ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-150	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-5	A
I_{CM}	Collector Current-Peak	-7.5	A
I_B	Base Current-Continuous	-2	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ C$	2	W
	Collector Power Dissipation @ $T_C \leq 100^\circ C$	20	
T_J	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	5.0	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	31.40	31.80
B	17.30	17.70
C	6.70	7.10
D	0.70	0.90
E	1.40	1.60
G	5.08	
H	2.54	
K	9.80	10.20
L	14.70	14.90
N	12.40	12.60
Q	3.60	3.80
U	24.30	24.50
V	3.50	3.70

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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -30\text{mA}$; $I_B = 0$	-150		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -2.5\text{A}$; $I_B = -0.25\text{A}$		-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}$; $I_B = -0.5\text{A}$		-2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}$; $V_{CE} = -4\text{V}$		-2.2	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -75\text{V}$; $I_B = 0$		-0.3	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -150\text{V}$; $I_E = 0$		-1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -2.5\text{V}$; $I_C = 0$ $V_{EB} = -5\text{V}$; $I_C = 0$		-0.1 -1.0	mA
h_{FE-1}	DC Current Gain	$I_C = -2.5\text{A}$; $V_{CE} = -4\text{V}$	30	150	
h_{FE-2}	DC Current Gain	$I_C = -5\text{A}$; $V_{CE} = -4\text{V}$	15		

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