

isc Silicon NPN Power Transistor

TIP3055T

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE}=20-70@I_C = 4A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)}= 0.8V(Max)@ I_C = 4A$
- Complement to Type TIP2955T
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

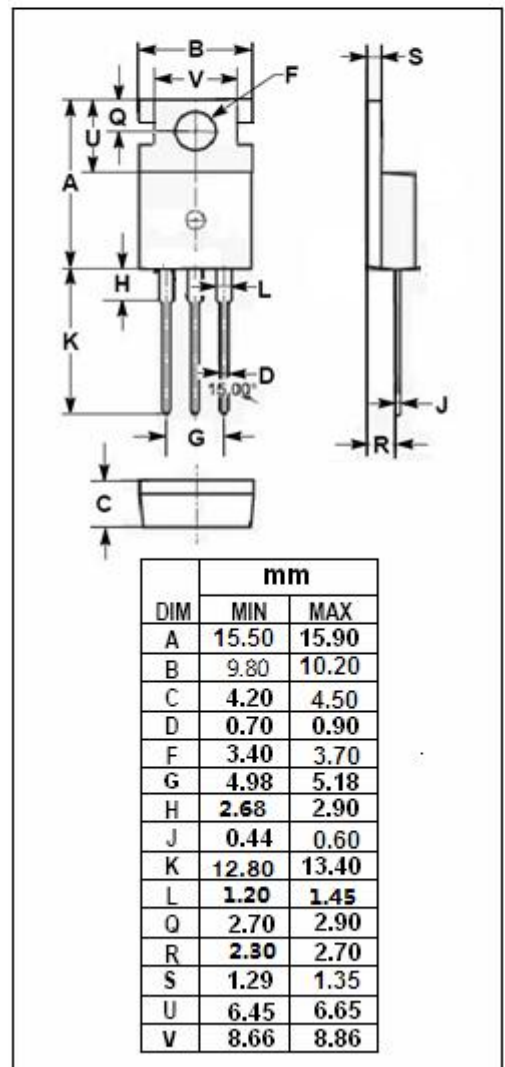
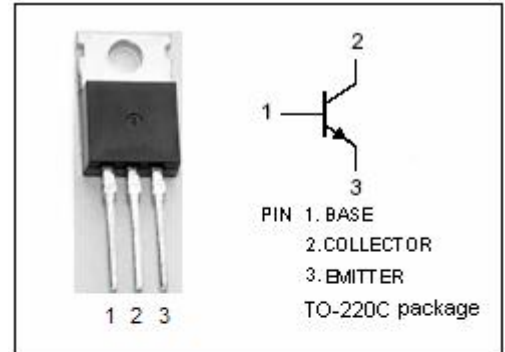
- Designed for general-purpose switching and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_C	Collector Current-Peak	12	A
I_B	Base Current	4	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	75	W
T_j	Junction Tmperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~175	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	1.67	$^{\circ}C/W$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	70	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	60		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$		0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=3.3\text{A}$		4.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$		1.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$		1.8	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=30\text{V}; I_B=0$		0.2	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=70\text{V}; I_E=0;$ $V_{CB}=70\text{V}; I_E=0; T_J=150^{\circ}\text{C}$		0.1 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		0.5	mA
h_{FE-1}	DC Current Gain	$I_C=4\text{A}; V_{CE}=4\text{V}$	20	70	
h_{FE-2}	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	5		
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}$	2		MHz

Switching Times

t_{on}	Turn-On Time	$I_C=2\text{A}; I_{B1}=-I_{B2}=0.2\text{A}$		1.0	μs
t_f	Turn-Off Time			4.0	μs

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