

isc Silicon NPN Power Transistor

2N6653

DESCRIPTION

- High Voltage Capability
- High Current Capability
- Low Collector Saturation Voltage-
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

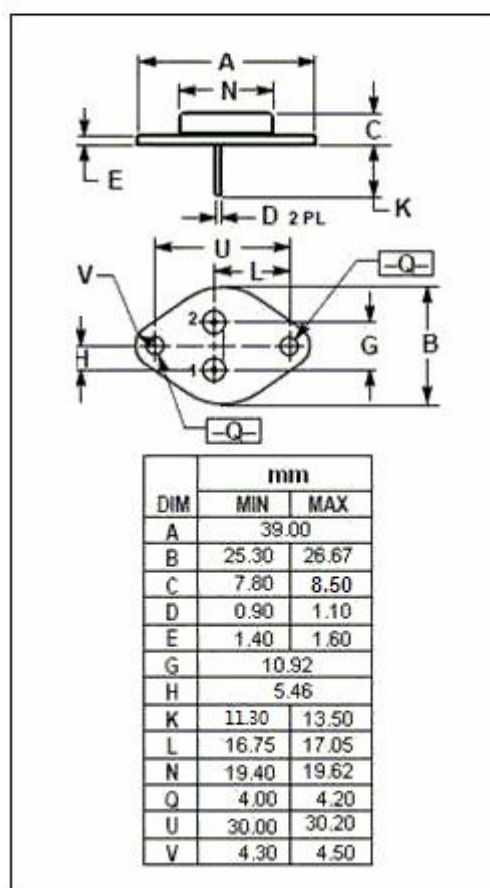
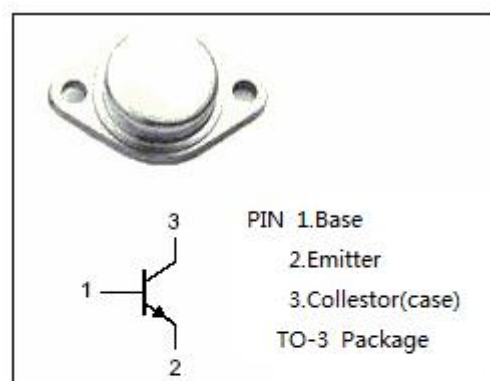
- Designed for use in switching and linear applications in military and power conversion.

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	350	V
V _{CEO}	Collector-Emitter Voltage	300	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	20	A
I _{CM}	Collector Current-Peak	30	A
I _B	Base Current-Continuous	10	A
P _C	Collector Power Dissipation @T _C =25°C	150	W
T _j	Junction Temperature	-65~175	°C
T _{stg}	Storage Temperature Range	-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.0	°C/W



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	300			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	350			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=15\text{A}; I_B=3\text{A}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=15\text{A}; I_B=3\text{A}$			1.3	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=300\text{V}; I_B=0$			1.0	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=350\text{V}; I_E=0$			0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			50	uA
h_{FE-1}	DC Current Gain	$I_C=15\text{A}; V_{CE}=5\text{V}$	10			
h_{FE-2}	DC Current Gain	$I_C=15\text{A}; V_{CE}=2\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=10\text{V}; f_{test}=10\text{MHz}$		25		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		300		pF

Switching Times

t_d	Delay Time	$I_C=15\text{A}, I_{B1}=-I_{B2}=3\text{A}$ $V_{CC}=200\text{V}$			0.05	μs
T_r	Rise Time				0.2	μs
t_{stg}	Storage Time				1.5	μs
t_f	Fall Time				0.35	μs

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