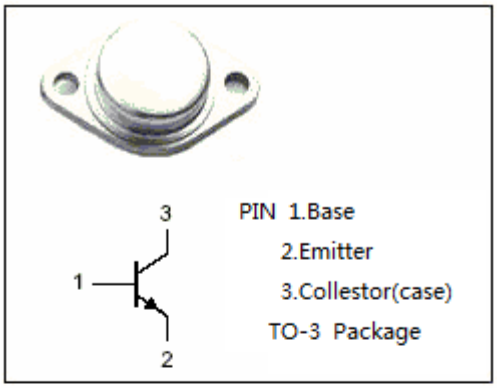
isc Silicon NPN Power Transistor ISC53

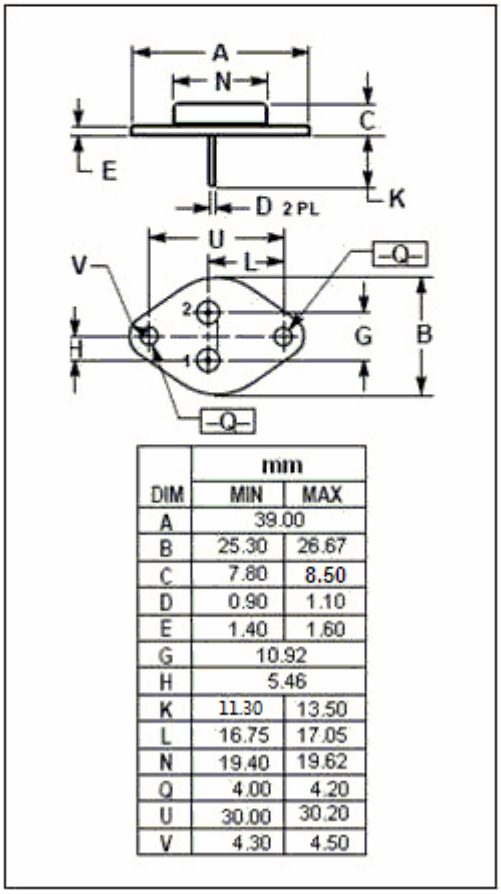
DESCRIPTION

- Excellent Safe Operating Area
- High Voltage,High Speed
- Low Saturation Voltage

APPLICATIONS

- Designed for high-voltage ,high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for 115 and 220 volt line operated switch-mode applications such as:
- Switching regulators
- PWM inverters and motor controls
- Solenoid and relay drivers
- Deflection circuits





DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	850	V
$V_{CEX(SUS)}$	Collector-Emitter Voltage	450	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9.0	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	10	A
I_{BM}	Base Current-Peak	20	A
P_C	Collector Power Dissipation@T_C=25℃	175	W
T_J	Junction Temperature	200	℃
T_{stg}	Storage Temperature	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.0	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C=50mA ; I_B=0	400		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 2.0A I_C= 10A; I_B= 2.0A,T_C=100℃		1.5 2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A; I_B= 3.0A		5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 2.0A I_C= 10A; I_B= 2.0A,T_C=100℃		1.6 1.6	V
I_{EBO}	Emitter Cutoff Current	V_{EB}= 9.0V; I_C=0		1.0	mA
h_{FE-1}	DC Current Gain	I_C= 5.0A ; V_{CE}= 2V	12	60	
h_{FE-2}	DC Current Gain	I_C= 10A ; V_{CE}= 2V	6.0	30	
$I_{s/b}$	Second Breakdown Collector Current with Base Forward Biased	V_{CE}= 100Vdc,t= 1.0s,Nonrepetitive	0.2		A
f_T	Current Gain-Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V; f_{test}=1.0MHz	6.0	28	MHz
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}=1.0MHz	125	500	pF