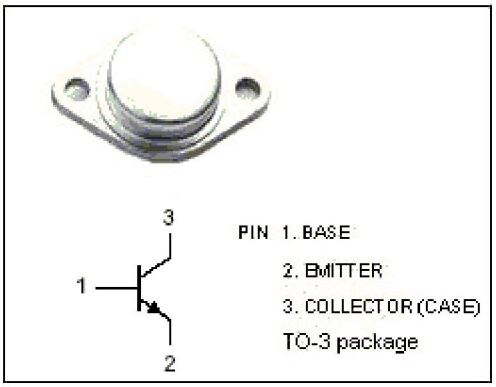
isc Silicon NPN Power Transistors BUS133/A

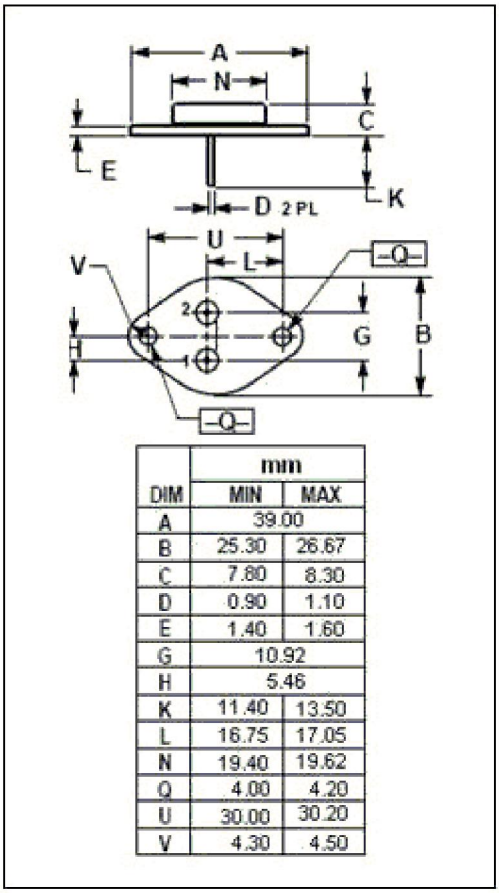
DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 450V (Min)-BUS133
  500V (Min)-BUS133A

APPLICATIONS

- Designed for use in very fast switching applications in inductive circuits.





DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	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		MAX	UNIT
V_{CES}	Collector- Emitter Voltage(V_{BE}= 0)	BUS133	850	V
		BUS133A	1000	
V_{CEO}	Collector-Emitter Voltage	BUS133	450	V
		BUS133A	500	
V_{EBO}	Emitter-Base Voltage		9	V
I_C	Collector Current-Continuous		15	A
I_{CM}	Collector Current-Peak		20	A
I_B	Base Current		10	A
I_{BM}	Base Current-Peak		15	A
P_C	Collector Power Dissipation @T_C=25℃		175	W
T_j	Junction Temperature		200	℃
T_{stg}	Storage Temperature Range		-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	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BUS133	I_C= 0.1A ; I_B= 0; L= 10mH	450			V
		BUS133A		500			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	BUS133	I_C= 5A; I_B= 0.7A			2.5	V
		BUS133A	I_C= 5A; I_B= 1A			1.0	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	BUS133	I_C= 10A; I_B= 1.3A			3.0	V
		BUS133A	I_C= 10A; I_B= 2A			1.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUS133	I_C= 10A; I_B= 1.3A			1.5	V
		BUS133A	I_C= 10A; I_B= 2A			1.5	
I_{CEV}	Collector Cutoff Current		V_{CE}=$V_{CESMmax}$;V_{BE}=-1.5V V_{CE}=$V_{CESMmax}$;V_{BE}=-1.5V;T_J=100℃			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current		V_{EB}= 6V; I_C= 0			1	mA
h_{FE}	DC Current Gain		I_C= 15A ; V_{CE}= 5V	5			
C_{OB}	Output Capacitance		I_E= 0 ; V_{CB}= 10V; f_{test}= 1kHz			400	pF

Switching Times , Resistive Load

t_{on}	Turn-On Time	BUS133	I_C= 10A ;I_{B1}= 1.3A; I_{B2}= -2.6A		0.4		μs
		BUS133A			0.45		
t_{stg}	Storage Time				1.3		μs
t_f	Fall Time				0.15		μs