

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

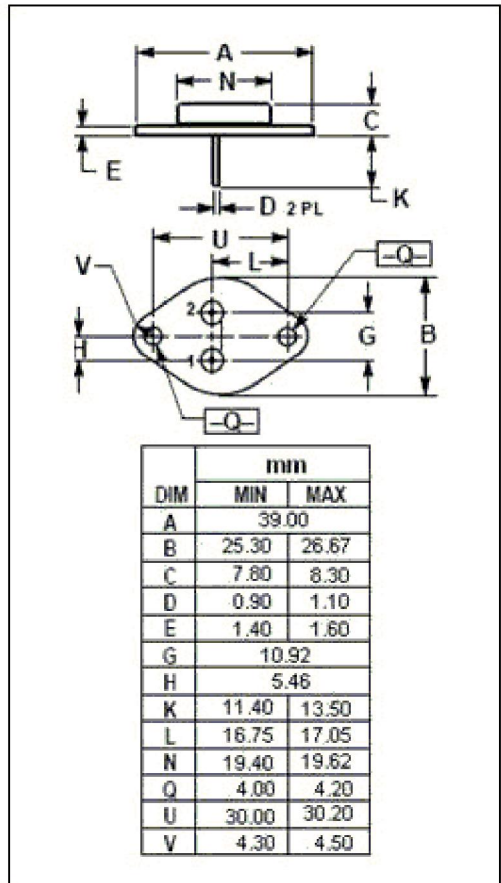
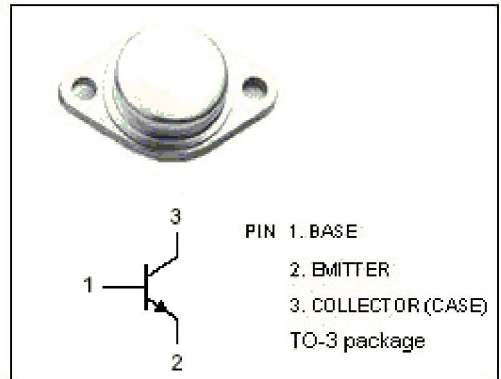
- Designed for use in very fast switching applications in inductive circuits.

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

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 @ $T_C=25^\circ C$	175	W	
T_j	Junction Temperature	200	$^\circ C$	
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$	

THERMAL CHARACTERISTICS

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



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ELECTRICAL CHARACTERISTICS

T_c=25°C 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				V
		BUS133A					
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				
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				
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				
I _{CEV}	Collector Cutoff Current		V _{CE} =V _{CESMmax} ; V _{BE} =-1.5V V _{CE} =V _{CESMmax} ; V _{BE} =-1.5V; T _J =100°C			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