

ISC Silicon NPN Power Transistors

BUS23B/C

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V$ (Min)-BUS23B
450V (Min)-BUS23C

APPLICATIONS

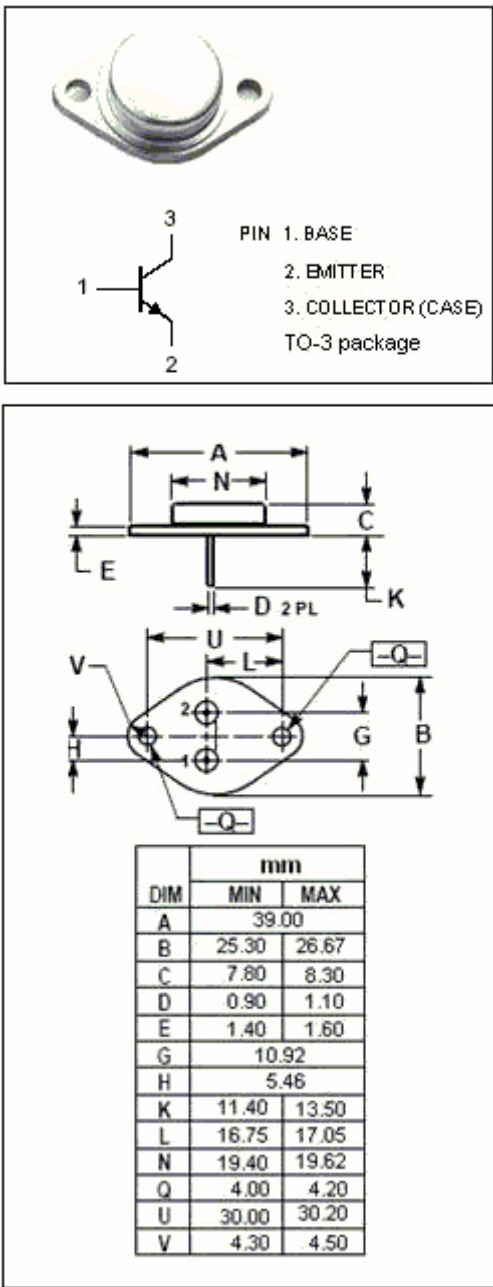
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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

SYMBOL	PARAMETER		MAX	UNIT
V_{CES}	Collector- Emitter Voltage($V_{BE}=0$)	BUS23B	750	V
		BUS23C	850	
V_{CEO}	Collector-Emitter Voltage	BUS23B	400	V
		BUS23C	450	
V_{EBO}	Emitter-Base Voltage		9	V
I_C	Collector Current-Continuous		15	A
I_{CM}	Collector Current-Peak		30	A
I_B	Base Current-Continuous		6	A
I_{BM}	Base Current-Peak		9	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$		175	W
T_j	Junction Temperature		150	$^{\circ}C$
T_{stg}	Storage Temperature Range		-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.7	$^{\circ}C/W$



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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	BUS23B	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	400			V
		BUS23C		450			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BUS23B	$I_C=10\text{A}; I_B=1.33\text{A}$			1.5	V
		BUS23C	$I_C=10\text{A}; I_B=1.67\text{A}$			1.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUS23B	$I_C=10\text{A}; I_B=1.33\text{A}$			1.6	V
		BUS23C	$I_C=10\text{A}; I_B=1.67\text{A}$			1.6	
I_{CES}	Collector Cutoff Current		$V_{CE}=V_{CESMmax}; V_{BE}=0$			1	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB}=9\text{V}; I_C=0$			10	mA
h_{FE}	DC Current Gain		$I_C=1.5\text{A}; V_{CE}=5\text{V}$		25		

Switching Times , Resistive Load

t_{on}	Turn-On Time	For BUS23B $I_C=10\text{A}; I_{B1}=-I_{B2}=1.33\text{A}$ For BUS23C $I_C=10\text{A}; I_{B1}=-I_{B2}=1.67\text{A}$		0.7		μS
t_{stg}	Storage Time			2.0		μS
t_f	Fall Time			0.27		μS