

isc Silicon NPN Darlington Power Transistor

BDV67/A/B/C

DESCRIPTION

- Collector Current $-I_C = 16A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 2.0V(\text{Max.}) @ I_C = 10A$
- Complement to Type BDV66/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

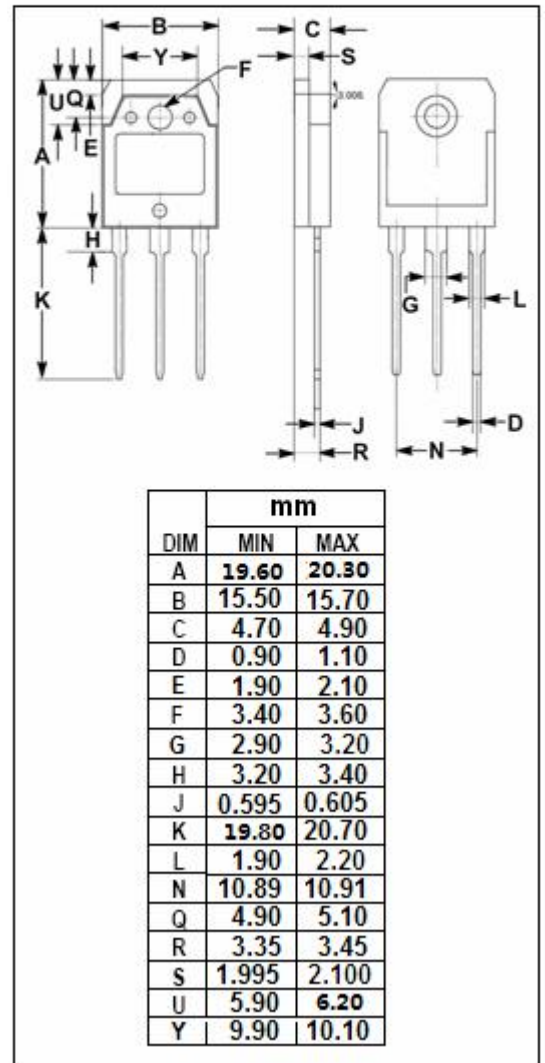
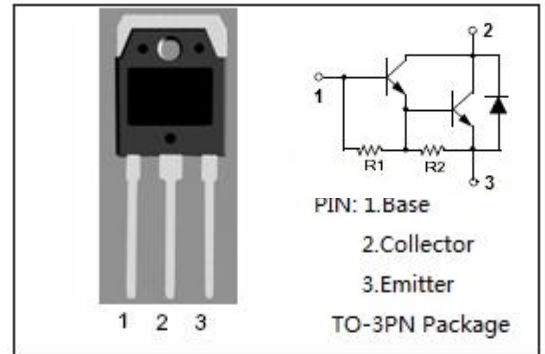
- Designed for audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDV67	80	V
		BDV67A	100	
		BDV67B	120	
		BDV67C	140	
V_{CEO}	Collector-Emitter Voltage	BDV67	60	V
		BDV67A	80	
		BDV67B	100	
		BDV67C	120	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		16	A
I_{CM}	Collector Current-Peak		20	A
I_B	Base Current-Continuous		0.5	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	0.625	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDV67	$I_C=100\text{mA}; I_B=0$	60			V
		BDV67A		80			
		BDV67B		100			
		BDV67C		120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=10\text{A}; I_B=40\text{mA}$			2	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=10\text{A}; V_{CE}=3\text{V}$			2.5	V
I_{CEO}	Collector Cutoff Current		$V_{CE}=1/2 V_{CE0max}; I_B=0$			1	mA
I_{CBO}	Collector Cutoff Current	BDV67	$V_{CB}=40\text{V}; I_E=0; T_J=150^{\circ}\text{C}$			5	mA
		BDV67A	$V_{CB}=50\text{V}; I_E=0; T_J=150^{\circ}\text{C}$				
		BDV67B	$V_{CB}=60\text{V}; I_E=0; T_J=150^{\circ}\text{C}$				
		BDV67C	$V_{CB}=70\text{V}; I_E=0; T_J=150^{\circ}\text{C}$				
I_{CBO}	Collector Cutoff Current		$V_{CB}=V_{CB0max}; I_E=0$			1	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			5	mA
h_{FE}	DC Current Gain		$I_C=10\text{A}; V_{CE}=3\text{V}$	1000			
C_{OB}	Output Capacitance		$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		300		pF

Switching times

t_{on}	Turn-on Time	$I_C=10\text{A}; I_{B1}=-I_{B2}=40\text{mA}; V_{CC}=12\text{V}$		1		μs
t_{off}	Turn-off Time			3.5		μs

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