

isc Silicon PNP Power Transistors

BDW56/58/60

DESCRIPTION

- Collector–Emitter Sustaining Voltage–
: $V_{CEQ(SUS)}$ = -45V- BDW56
= -60V- BDW58
= -80V- BDW60
- Complement to Type BDW55/57/59
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

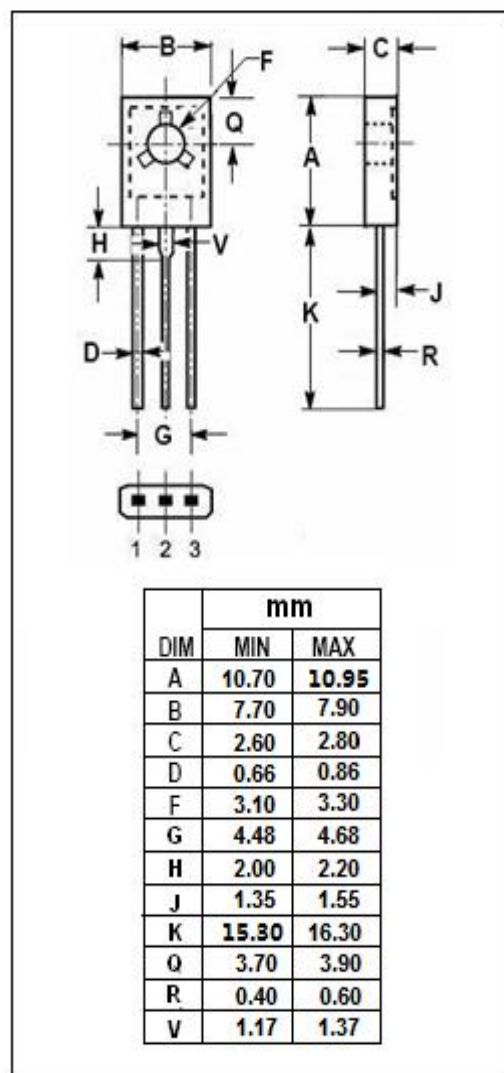
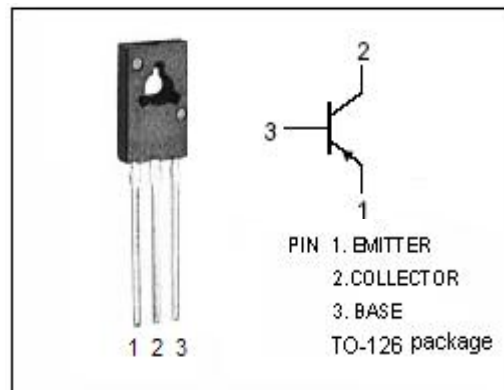
- Designed for use in professional equipment such as telecommunication and etc.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDW56 -45	V
		BDW58 -60	
		BDW60 -100	
V_{CER}	Collector-Emitter Voltage $R_{BE}=1k\Omega$	BDW56 -45	V
		BDW58 -60	
		BDW60 -100	
V_{CEO}	Collector-Emitter Voltage	BDW56 -45	V
		BDW58 -60	
		BDW60 -80	
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-1.5	A
I_{CM}	Collector Current-Peak	-3	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}\text{C}$	12.5	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	10	$^{\circ}\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	100	$^{\circ}\text{C/W}$



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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	BDW56	I _C = -10mA ;I _B =0	-45			V
		BDW58		-60			
		BDW60		-80			
V _{CE(sat)}	Collector-Emitter Saturation Voltage		I _C = -0.5A; I _B = -50mA			-0.5	V
V _{BE(on)}	Base-Emitter On Voltage		I _C = -0.5A ; V _{CE} = -2V			-1.0	V
I _{CBO}	Collector Cutoff Current		V _{CB} = V _{CB0max} ;I _E = 0			-0.1	μ A
I _{CBO}	Collector Cutoff Current	BDW56	V _{CB} = -45V; I _E =0			-10	μ A
		BDW58	V _{CB} = -60V; I _E =0			-10	
		BDW60	V _{CB} = -100V; I _E =0			-10	
I _{EBO}	Emitter Cutoff Current		V _{EB} = -5V; I _C =0			-10	μ A
h _{FE-1}	DC Current Gain		I _C = -5mA ; V _{CE} = -2V	25			
h _{FE-2}	DC Current Gain		I _C = -150mA ; V _{CE} = -2V	40		250	
h _{FE-3}	DC Current Gain		I _C = -500mA ; V _{CE} = -2V	25			
f _T	Current-Gain—Bandwidth Product		I _C = -50mA;V _{CE} = -5V;f _{test} = 35MHz		75		MHz
Switching times							
t _d	Delay Time		I _C = 0.15A; I _{B1} = -I _{B2} = 15mA; V _{CC} = 10.2V		30		ns
t _r	Rise Time				40		ns
t _{stg}	Storage Time				500		ns
t _f	Fall Time				80		ns

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