

isc Silicon NPN Power Transistors

BDT41F/41AF/41BF/41CF

DESCRIPTION

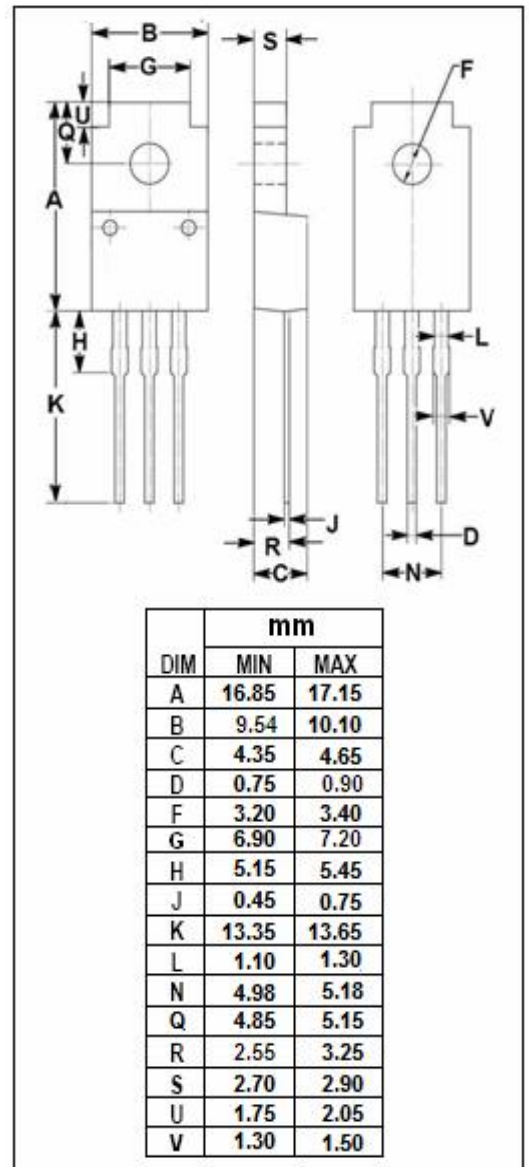
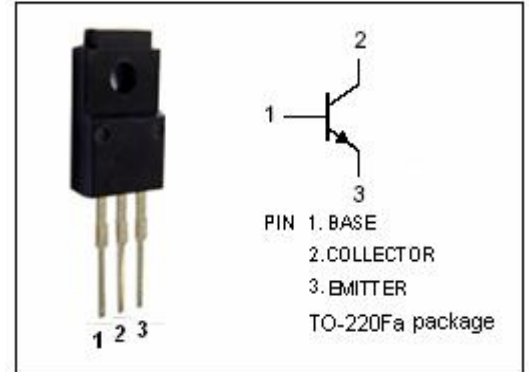
- DC Current Gain $-h_{FE} = 30(\text{Min})@ I_C = 0.3\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 40\text{V}(\text{Min})$ - BDT41F; $60\text{V}(\text{Min})$ - BDT41AF
 $80\text{V}(\text{Min})$ - BDT41BF; $100\text{V}(\text{Min})$ - BDT41CF
- Complement to Type BDT42F/42AF/42BF/42CF
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in general purpose amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDT41F	80
		BDT41AF	100
		BDT41BF	120
		BDT41CF	140
V_{CEO}	Collector-Emitter Voltage	BDT41F	40
		BDT41AF	60
		BDT41BF	80
		BDT41CF	100
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current	3	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	32	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDT41F	$I_C = 30\text{mA}; I_B = 0$	40		V
		BDT41AF		60		
		BDT41BF		80		
		BDT41CF		100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C = 6\text{A}; I_B = 0.6\text{A}$		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = 6\text{A}; V_{CE} = 4\text{V}$		2.0	V
I_{CES}	Collector Cutoff Current	BDT41F	$V_{CE} = 40\text{V}; V_{EB} = 0$		0.4	mA
		BDT41AF	$V_{CE} = 60\text{V}; V_{EB} = 0$			
		BDT41BF	$V_{CE} = 80\text{V}; V_{EB} = 0$			
		BDT41CF	$V_{CE} = 100\text{V}; V_{EB} = 0$			
I_{CEO}	Collector Cutoff Current	BDT 41/41A	$V_{CE} = 30\text{V}; I_B = 0$		0.2	mA
		BDT41B/41C	$V_{CE} = 60\text{V}; I_B = 0$			
I_{EBO}	Emitter Cutoff Current		$V_{EB} = 5\text{V}; I_C = 0$		0.5	mA
h_{FE-1}	DC Current Gain		$I_C = 0.3\text{A}; V_{CE} = 4\text{V}$	30		
h_{FE-2}	DC Current Gain		$I_C = 3\text{A}; V_{CE} = 4\text{V}$	15	75	
f_T	Current-Gain—Bandwidth Product		$I_C = 0.5\text{A}; V_{CE} = 10\text{V}$	3		MHz

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