

isc Silicon NPN Power Transistors

BDT29/A/B/C

DESCRIPTION

- DC Current Gain  $-h_{FE} = 40(\text{Min}) @ I_C = 0.4A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 40V(\text{Min})$ - BDT29;  $60V(\text{Min})$ - BDT29A  
 $80V(\text{Min})$ - BDT29B;  $100V(\text{Min})$ - BDT29C
- Complement to Type BDT30/A/B/C

APPLICATIONS

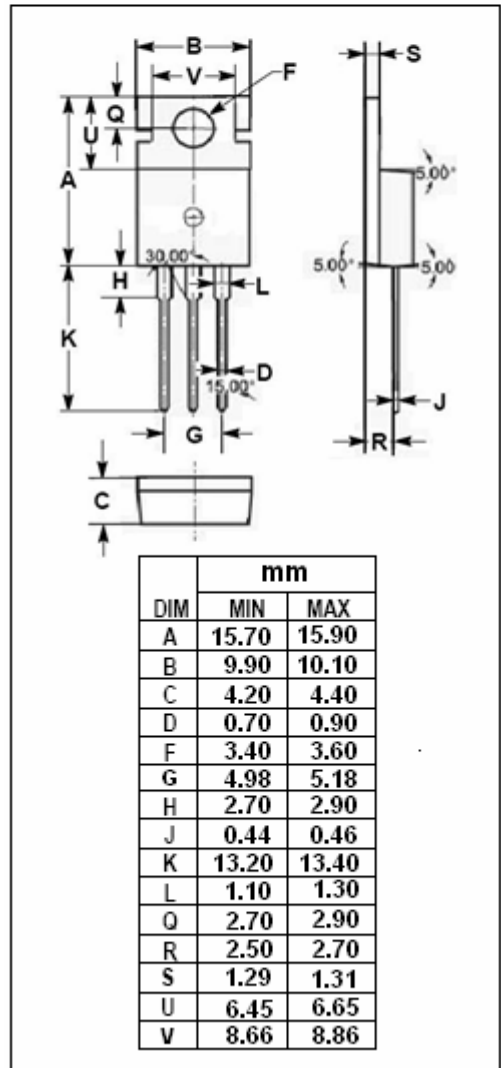
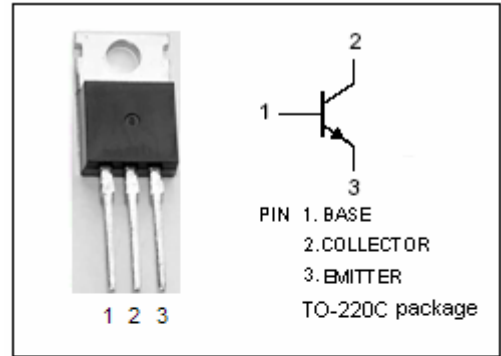
- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BDT29	80	V
		BDT29A	100	
		BDT29B	120	
		BDT29C	140	
$V_{CEO}$	Collector-Emitter Voltage	BDT29	40	V
		BDT29A	60	
		BDT29B	80	
		BDT29C	100	
$V_{EBO}$	Emitter-Base Voltage	5	V	
$I_C$	Collector Current-Continuous	1	A	
$I_{CM}$	Collector Current-Peak	3	A	
$I_B$	Base Current	0.4	A	
$P_C$	Collector Power Dissipation $T_C=25^\circ\text{C}$	30	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	4.17	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



## isc Silicon NPN Power Transistors

## BDT29/A/B/C

## 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	BDT29	$I_C=30\text{mA}; I_B=0$	40			V
		BDT29A		60			
		BDT29B		80			
		BDT29C		100			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=1\text{A}; I_B=0.125\text{A}$			0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=1\text{A}; V_{CE}=4\text{V}$			1.3	V
$I_{CES}$	Collector Cutoff Current		$V_{CE}=V_{CE0max}; V_{BE}=0$			0.2	mA
$I_{CEO}$	Collector Cutoff Current	BDT29/A	$V_{CE}=30\text{V}; I_B=0$			0.1	mA
		BDT29B/C	$V_{CE}=60\text{V}; I_B=0$				
$I_{EBO}$	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			0.2	mA
$h_{FE-1}$	DC Current Gain		$I_C=0.2\text{A}; V_{CE}=4\text{V}$	40			
$h_{FE-2}$	DC Current Gain		$I_C=1\text{A}; V_{CE}=4\text{V}$	15		75	
$f_T$	Current-Gain—Bandwidth Product		$I_C=0.2\text{A}; V_{CE}=10\text{V}$	3			MHz

## Switching Times

$t_{on}$	Turn-On Time	$I_C=1.0\text{A}; I_{B1}=-I_{B2}=0.1\text{A}$		0.3		$\mu\text{s}$
$t_{off}$	Turn-Off Time			1.0		$\mu\text{s}$