

isc Silicon NPN Power Transistor

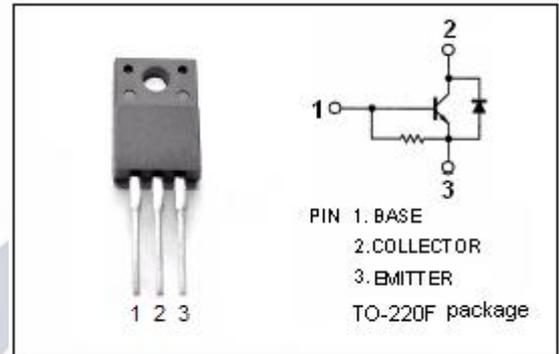
3DD5024

DESCRIPTION

- High Breakdown Voltage-
: $V_{CBO} = 1500V$ (Min)
- Wide Area of Safe Operation
- Built-in Damper Diode

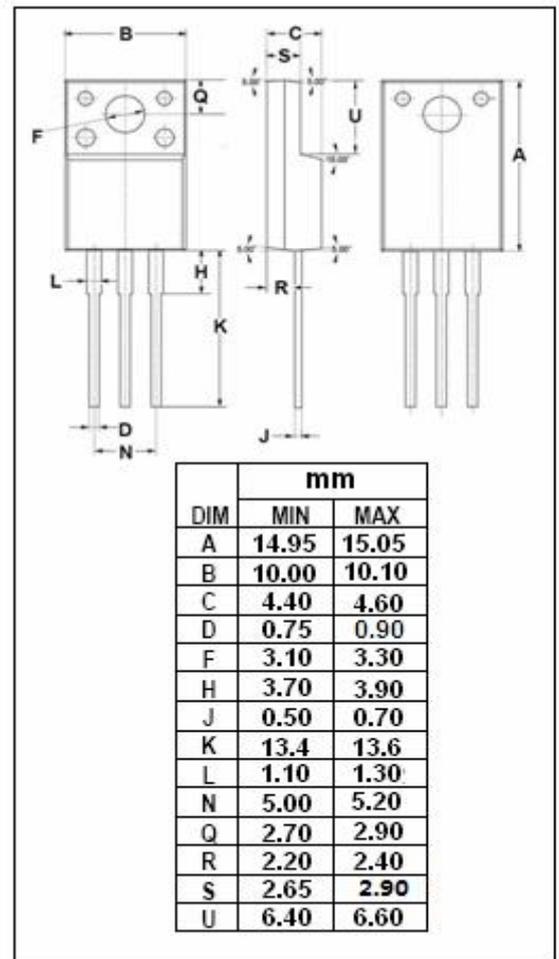
APPLICATIONS

- Horizontal deflection output for TV, CRT monitor applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	600	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current- Continuous	8	A
I_B	Base Current- Continuous	4	A
I_{CP}	Collector Current-Pulse	16	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	35	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector- Base Breakdown Voltage	$I_C= 1\text{mA}$; $I_E= 0$	1500			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 400\text{mA}$; $I_C= 0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 4.5\text{A}$; $I_B= 0.9\text{A}$			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 4.5\text{A}$; $I_B= 0.9\text{A}$			1.5	V
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 4\text{V}$; $I_C= 0$	40		150	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}= 1500\text{V}$; $I_E= 0$			1	mA
h_{FE}	DC Current Gain	$I_C= 1\text{A}$; $V_{CE}= 5\text{V}$	10		30	
		$I_C= 5\text{A}$; $V_{CE}= 5\text{V}$	5			
V_{ECF}	C-E Diode Forward Voltage	$I_F= 5\text{A}$			2.0	V
f_T	Current-Gain—Bandwidth Product	$I_C= 0.1\text{A}$; $V_{CE}= 10\text{V}$; $f= 0.5\text{MHz}$	1.7			MHz

Switching times; Resistive load

t_{stg}	Storage Time	$I_C= 4\text{A}$, $I_{B1}= I_{B2}= -1.8\text{A}$			1.0	μs
t_f	Fall Time				9.0	μs