

**isc Silicon NPN Power Transistor**

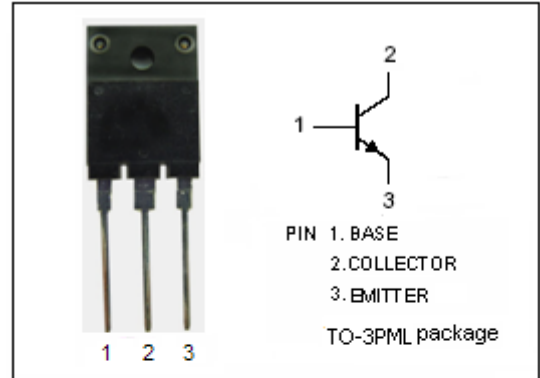
**2SD2047**

**DESCRIPTION**

- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- High Speed Switching

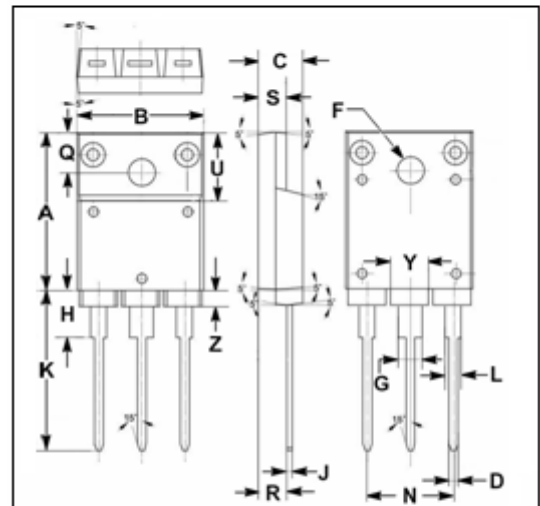
**APPLICATIONS**

- Color TV horizontal deflection output
- Color display horizontal deflection output



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1500	V
$V_{CEO}$	Collector-Emitter Voltage	700	V
$V_{EBO}$	Emitter-Base Voltage	10	V
$I_C$	Collector Current- Continuous	5	A
$I_{CP}$	Collector Current-Pulse	10	A
$I_B$	Base Current- Continuous	3	A
$P_C$	Collector Power Dissipation @ $T_C=25^{\circ}C$	80	W
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature Range	-55~150	$^{\circ}C$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.90	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.10
H	5.90	6.10
J	0.595	0.605
K	22.30	22.50
L	1.90	2.10
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.40
U	9.90	10.10
Y	4.70	4.90
Z	1.90	2.10

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.55	$^{\circ}C/W$

**isc Silicon NPN Power Transistor****2SD2047****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_B=0$	700			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	1500			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	10			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2.0\text{A}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2.0\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=750\text{V}; I_E=0$			50	$\mu\text{A}$
		$V_{CB}=1500\text{V}; I_E=0$			1.0	mA
$h_{FE}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	18		50	

## Switching Times

$t_{on}$	Turn-on Time	$I_C=2.5\text{A}, I_{B1}=0.25\text{A}; I_{B2}=-0.5\text{A}$			1.0	$\mu\text{s}$
$t_{stg}$	Storage Time				3.0	$\mu\text{s}$
$t_f$	Fall Time				0.5	$\mu\text{s}$