

**isc Silicon NPN Power Transistor**

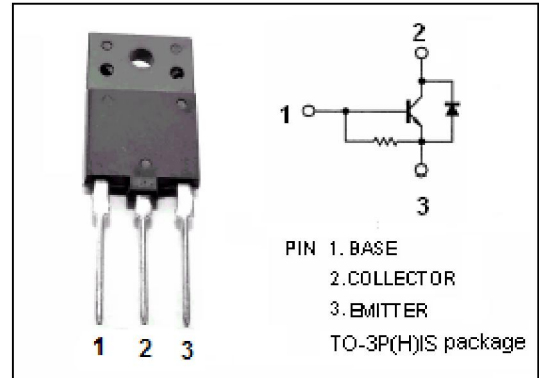
**2SC4766**

**DESCRIPTION**

- High Breakdown Voltage-  
:  $V_{CBO} = 1700V$  (Min)
- High Switching Speed
- Low Saturation Voltage
- Built-in Damper Diode

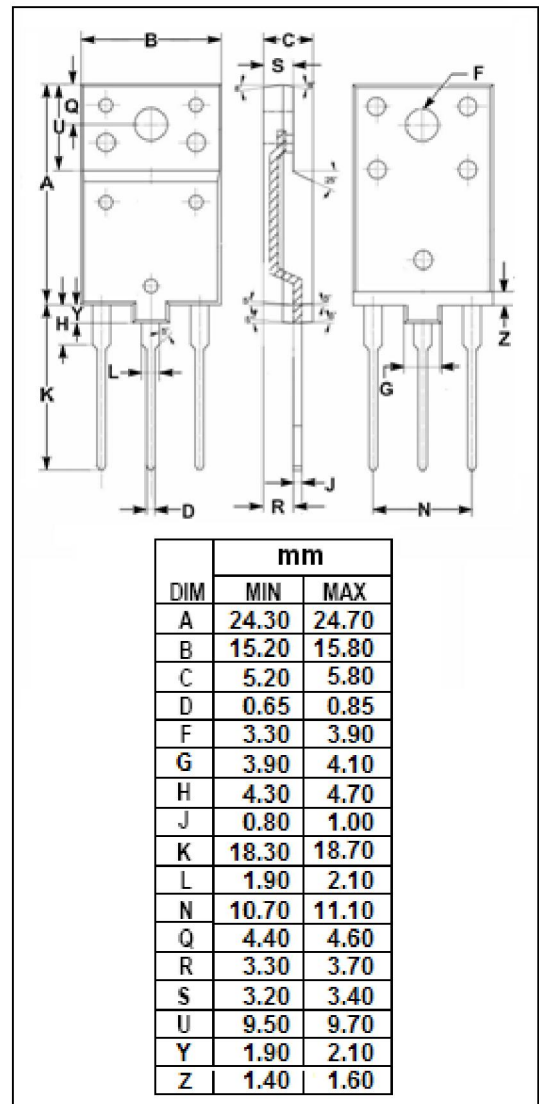
**APPLICATIONS**

- Horizontal deflection output for medium resolution display.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1700	V
$V_{CEO}$	Collector-Emitter Voltage	600	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current- Continuous	$\pm 6$	A
$I_{CP}$	Collector Current-Pulse	$\pm 12$	A
$I_B$	Base Current- Continuous	3	A
$P_C$	Collector Power Dissipation @ $T_c=25^{\circ}C$	50	W
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature Range	-55~150	$^{\circ}C$



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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 300mA ; I <sub>C</sub> = 0	5			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4.5A; I <sub>B</sub> = 1.3A			5.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4.5A; I <sub>B</sub> = 1.3A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 1700V ; I <sub>E</sub> = 0			1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V ; I <sub>C</sub> = 0	66		200	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 5V	8			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 4.5A ; V <sub>CE</sub> = 5V	3.5		7.5	
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 4.5A			2.0	V
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.1A ; V <sub>CE</sub> = 10V		3		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f <sub>test</sub> =1.0MHz		250		pF

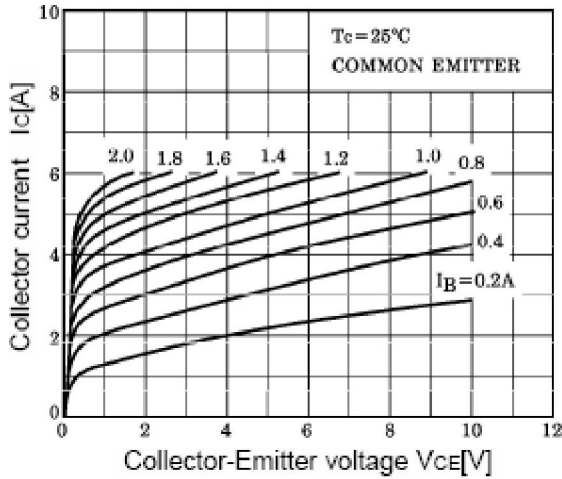
Switching times; Resistive load

t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 4.5A , I <sub>B1</sub> = 0.9A ; I <sub>B2</sub> = -1.8A R <sub>L</sub> = 43Ω			3.0	μs
t <sub>f</sub>	Fall Time				0.2	μs

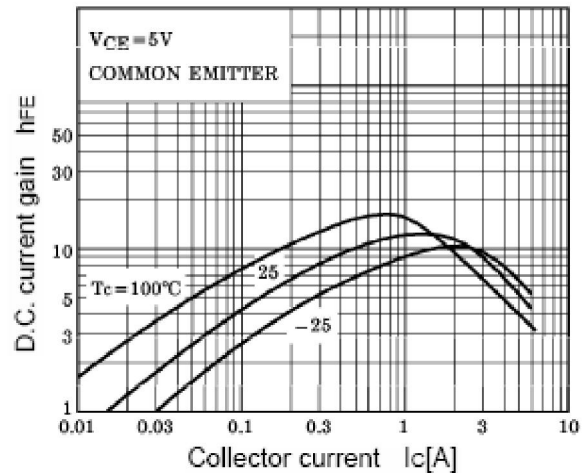
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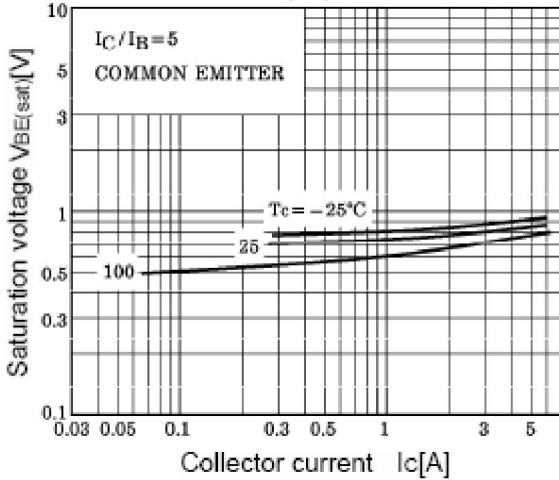
**$I_C$ - $V_{CE}$  Characteristics**



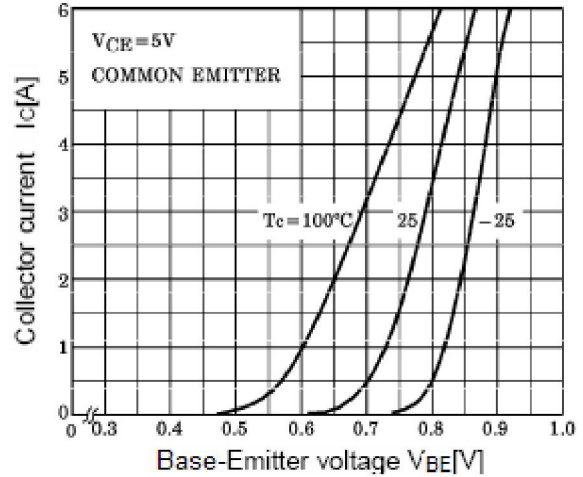
**$h_{FE}$ - $I_C$  Characteristics**



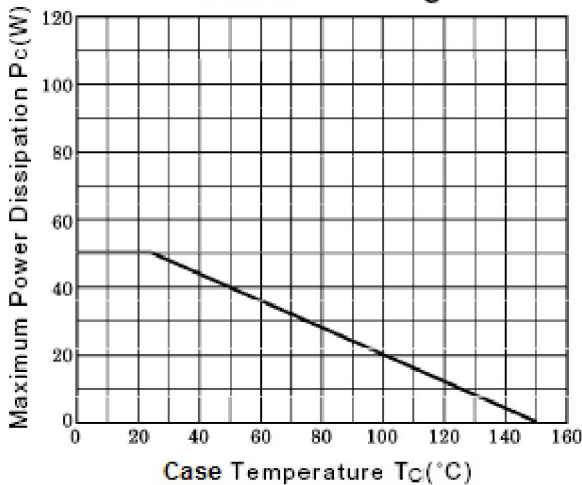
**$V_{BE(sat)}$ - $I_C$  Characteristics**



**$I_C$ - $V_{BE}$  Characteristics**



**Power Derating**



**Safe Operating Area**

