

**isc Silicon NPN Power Transistor**

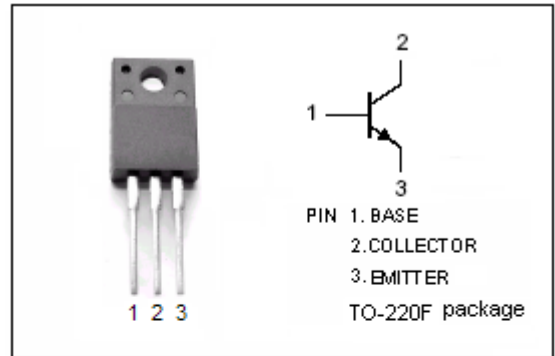
**2SC5887**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 50V(\text{Min})$
- High Speed Switching
- Low Saturation Voltage-  
:  $V_{CE(sat)} = 0.4V(\text{Max}) @ (I_C = 7A; I_B = 0.35A)$
- Complement to Type 2SA2098

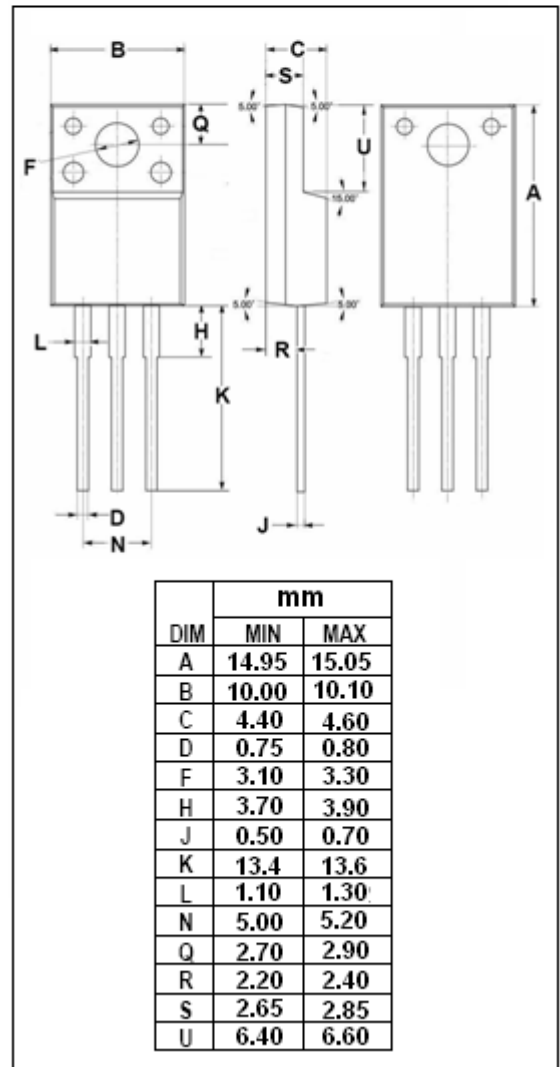
**APPLICATIONS**

- Relay drivers, lamp drivers, motor drivers.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Pulse	20	A
$I_B$	Base Current-Continuous	3	A
$P_T$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	30	W
	Total Power Dissipation @ $T_a=25^\circ\text{C}$	2.0	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



## isc Silicon NPN Power Transistor

2SC5887

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 1mA; R <sub>BE</sub> = ∞	50			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 0.1mA; I <sub>E</sub> = 0	60			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 0.1mA; I <sub>C</sub> = 0	6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 0.35A			0.4	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 0.35A			1.4	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 40V; I <sub>E</sub> = 0			10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 4V; I <sub>C</sub> = 0			10	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 2V	180		560	
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1.0MHz		100		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 10V		300		MHz

## Switching times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 5A, I <sub>B1</sub> = -I <sub>B2</sub> = 0.25A, V <sub>CC</sub> = 20V		50		ns
t <sub>stg</sub>	Storage Time			700		ns
t <sub>f</sub>	Fall Time			40		ns