

isc Silicon PNP Power Transistor

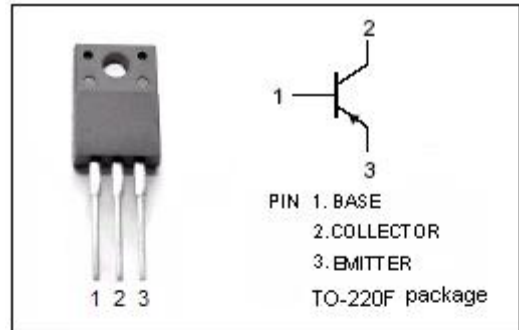
2SA1601

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = -40(V)(Min.)$
- Low Collector Saturation Voltage
: $V_{CE(sat)} = -0.3(V)(Max.) @ I_C = -7.5A$
- Large Current Capability- $I_C = -15A$

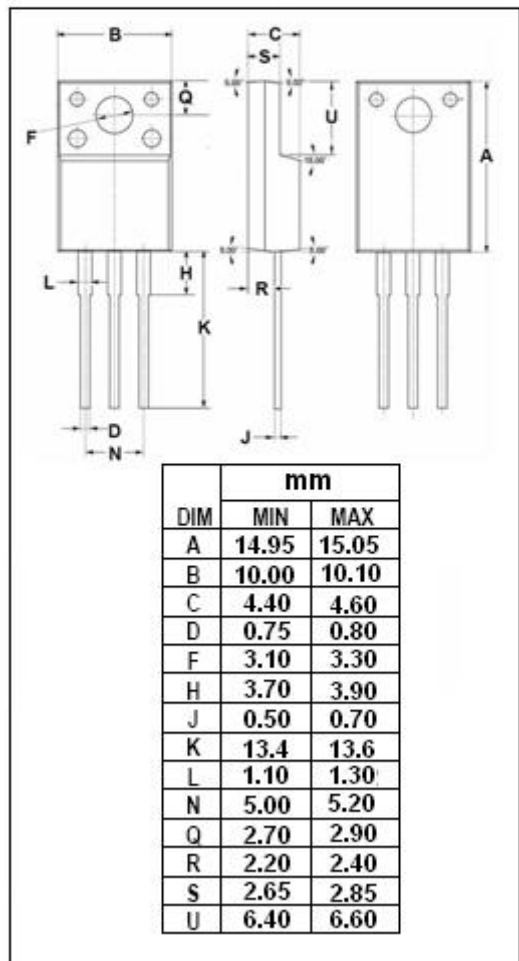
APPLICATIONS

- Designed for mid-switching applications, and is ideal for use as a ramp driver.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-15	A
I_{CM}	Collector Current-Peak	-30	A
I_B	Base Current-Continuous	-2	A
I_{BM}	Base Current-Peak	-3	A
P_C	Total Power Dissipation @ $T_C=25^{\circ}C$	45	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.77	$^{\circ}C/W$

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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	$I_C = -0.1\text{A}; I_B = 0$	-40			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -7.5\text{A}; I_B = -0.4\text{A}$			-0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -7.5\text{A}; I_B = -0.4\text{A}$			-1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -60\text{V}; I_E = 0$			-100	μA
I_{CEO}	Collector Cutoff Current	$V_{CE} = -40\text{V}; I_B = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -7\text{V}; I_C = 0$			-100	μA
h_{FE}	DC Current Gain	$I_C = -7.5\text{A}; V_{CE} = -2\text{V}$	70			
f_T	Current-Gain—Bandwidth Product	$I_C = -1.5\text{A}; V_{CE} = -10\text{V}$		50		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -7.5\text{A}, I_{B1} = -I_{B2} = -0.75\text{A}, R_L = 4\ \Omega, V_{BB2} = -4\text{V};$			0.3	μs
t_{stg}	Storage Time				1.5	μs
t_f	Fall Time				0.5	μs