

isc Silicon NPN Power Transistor

2SC4596

DESCRIPTION

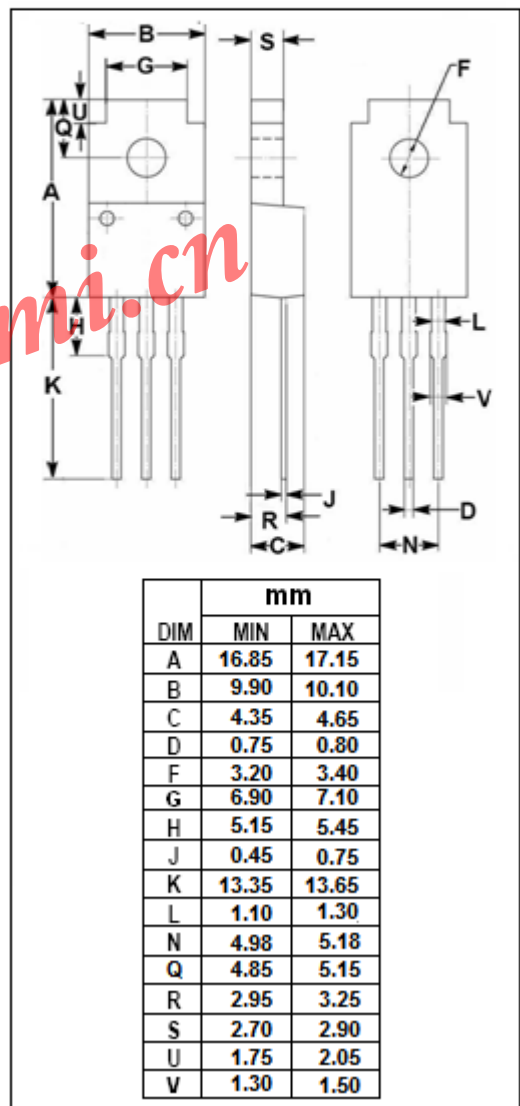
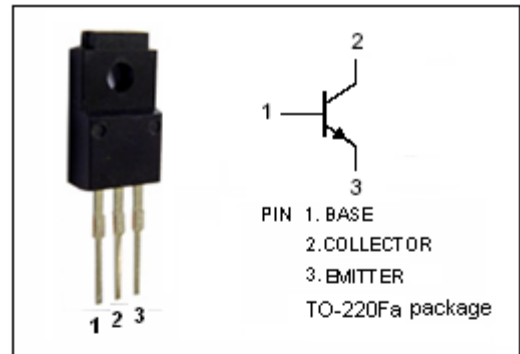
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.3V(\text{Max}) @ I_C = 3A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 60V (\text{Min})$
- Complement to Type 2SA1757

APPLICATIONS

- Designed for high speed and power switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=3A; I_B=0.3A, L=1mH$	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=50\mu A; I_E=0$	100			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\mu A; I_C=0$	5			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=3A; I_B=0.15A$			0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=4A; I_B=0.2A$			0.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=3A; I_B=0.15A$			1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=4A; I_B=0.2A$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100V; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5V; I_C=0$			10	μA
h_{FE}	DC Current Gain	$I_C=1A; V_{CE}=2V$	100		320	
f_T	Current-Gain—Bandwidth Product	$I_C=0.5A; V_{CE}=10V$		120		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10V; f_{test}=1.0MHz$		80		pF

Switching times

t_{on}	Turn-on Time	$I_C=3A; I_{B1}=-I_{B2}=0.15A$ $R_L=10\Omega; V_{CC}\approx 30V$			0.3	μs
t_{stg}	Storage Time				1.5	μs
t_f	Fall Time				0.3	μs

◆ h_{FE} classifications

E	F
100-200	160-320