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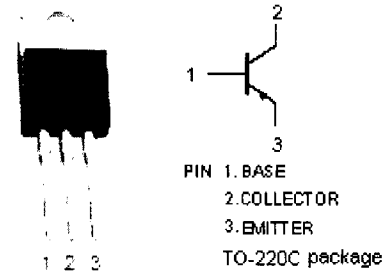
Silicon PNP Power Transistor — 2SA1645

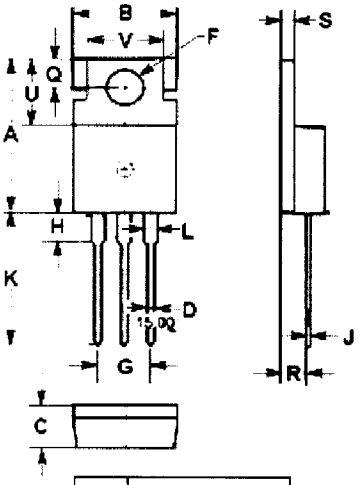
DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= -100V(Min)
- High DC Current Gain-
  : h_{FE}= 100(Min)@ (V_{CE}= -2V , I_C= -1A)
- Low Saturation Voltage-
  : $V_{CE(sat)}$= -0.3V(Max)@ (I_C= -4A, I_B= -0.2A)
- Fast Switching Speed



APPLICATIONS

- Developed for use in switching power supplies, DC/DC converters, motor drivers, solenoid drivers, and other low-voltage power supply devices, as well as for high-current switching.



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.90	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	13.00	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-150	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-7.0	V
I_C	Collector Current-Continuous	-7.0	A
I_{CM}	Collector Current-Peak	-14	A
I_B	Base Current-Continuous	-3.5	A
P_C	Collector Power Dissipation @ T_a=25℃	1.5	W
	Collector Power Dissipation @ T_C=25℃	35	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= -4A; I_B= -0.2A			-0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= -6A; I_B= -0.3A			-0.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= -4A; I_B= -0.2A			-1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= -6A; I_B= -0.3A			-1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= -100V; I_E=0			-10	μ A
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C=0			-10	μ A
h_{FE-1}	DC Current Gain	I_C= -0.5A; V_{CE}= -2V	100			
h_{FE-2}	DC Current Gain	I_C= -1.5A; V_{CE}= -2V	100		400	
h_{FE-3}	DC Current Gain	I_C= -4A; V_{CE}= -2V	60			
C_{OB}	Output Capacitance	I_E=0; V_{CB}= -10V; f= 1.0MHz		150		pF
f_T	Current-Gain—Bandwidth Product	I_C=-1.5A; V_{CE}= -10V		150		MHz

Switching times

t_{on}	Turn-on Time	I_C= -4A, R_L= 12.5Ω , I_{B1}= -I_{B2}= -0.2A, V_{CC}= -50V		0.3		μ s
t_{stg}	Storage Time			1.5		μ s
t_f	Fall Time			0.4		μ s

◆ **h_{FE-2} Classifications**

M	L	K
100-200	150-300	200-400