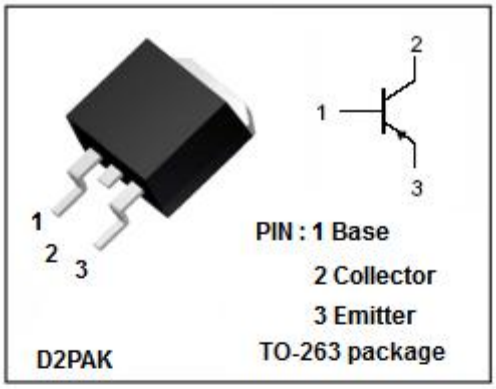
isc Silicon PNP Power Transistor 2SA1645-Z

DESCRIPTION

- Low Saturation Voltage-
  : $V_{CE(sat)}$= −0.3V(Max)@ (I_C= -4A, I_B= -0.2A)
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

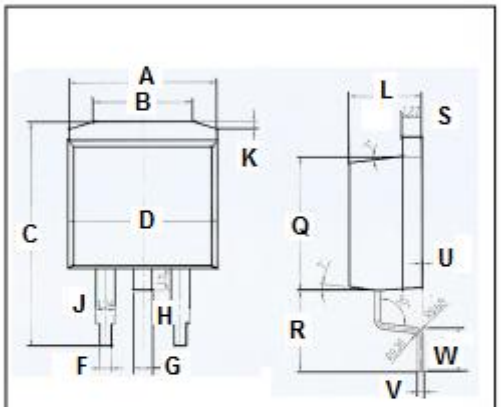


APPLICATIONS

- 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.

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	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	10	
B	6.6	6.8
C	15.23	15.25
D	10.15	10.17
F	0.76	0.78
G	1.26	1.28
H	1.4	1.6
J	1.33	1.35
K	0.4	0.6
L	4.6	4.8
Q	8.69	8.71
R	5.28	5.30
S	1.26	1.28
U	0.0	0.2
V	0.37	0.39
W	2.80	2.82

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
$V_{CE(sat)-1}$NOTE	Collector-Emitter Saturation Voltage	I_C= -4A; I_B= -0.2A			-0.3	V
$V_{CE(sat)-2}$NOTE	Collector-Emitter Saturation Voltage	I_C= -6A; I_B= -0.3A			-0.5	V
$V_{BE(sat)-1}$NOTE	Base-Emitter Saturation Voltage	I_C= -4A; I_B= -0.2A			-1.2	V
$V_{BE(sat)-2}$NOTE	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	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C=0			-10	μA
h_{FE-1}NOTE	DC Current Gain	I_C= -0.5A; V_{CE}= -2V	100			
h_{FE-2}NOTE	DC Current Gain	I_C= -1.5A; V_{CE}= -2V	100		400	
h_{FE-3}NOTE	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		μs
t_{stg}	Storage Time			1.5		μs
t_f	Fall Time			0.4		μs

NOTE:Pulse test PW≤350us,duty cycle ≤2%

◆ h_{FE-2} Classifications

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

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