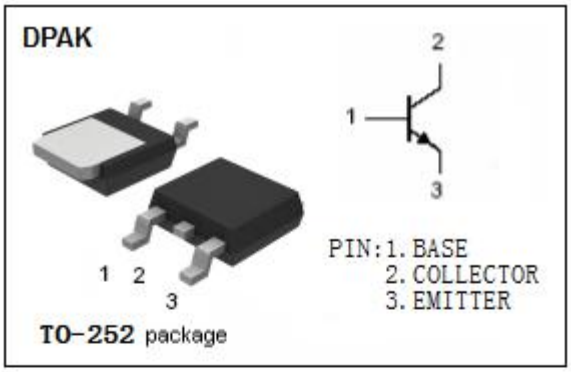
isc Silicon NPN Power Transistor STD1802

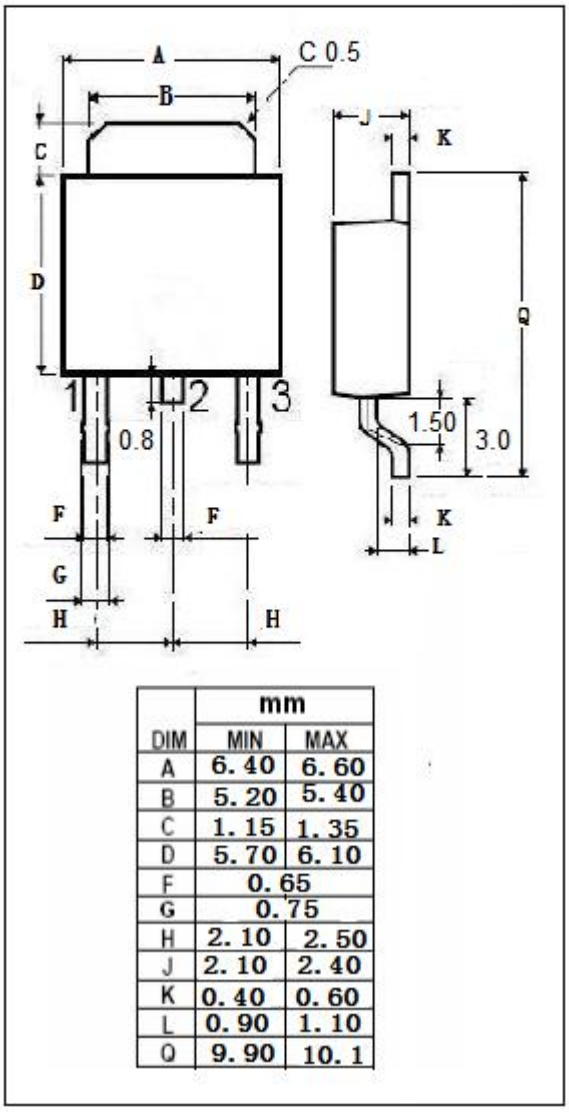
DESCRIPTION

- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 0.4V(Max)(I_C= 3A; I_B= 0.15A)
- DC Current Gain -h_{FE} = 100(Min)@ I_C= 3A
- Fast -Switching speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- CCFL dirvers
- Voltage regulators
- Relay dirvers
- High efficiency low voltage switching applications



DIM	mm MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	6	A
I_B	Base Current	1	A
P_C	Total Power Dissipation @ T_C=25℃	15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	8.33	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=0.1mA,I_C=0	6			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C=1mA, I_B=0	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=0.1mA ,I_E=0	80			V
$V_{CE(sat)}$ *	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 100mA			0.3	V
		I_C= 3A; I_B= 150mA			0.4	V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 100mA			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V; I_E= 0			100	nA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 4V; I_C=0			100	nA
h_{FE}*	DC Current Gain	I_C= 100mA; V_{CE}= 2V	200		400	
		I_C= 3A; V_{CE}= -2V	100			
f_T	Current-Gain—Bandwidth Product	I_C= 50mA ;V_{CE}= 10V		150		MHZ
C_{OB}	Output Capacitance	V_{CB}=10V;f=1.0MHz		50		pF

* Pulse Test: PW≤300μs, Duty Cycle≤1.5%

Switching Times; Resistive Load

t_{on}	Tur-on Time	I_C= 1A; V_{CC}= 30V; I_{B1}= I_{B2}= -0.1A		50		ns
t_s	Storage Time			1.35		us
t_f	Fall Time			120		ns

INCHANGE SEMICONDUCTOR

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