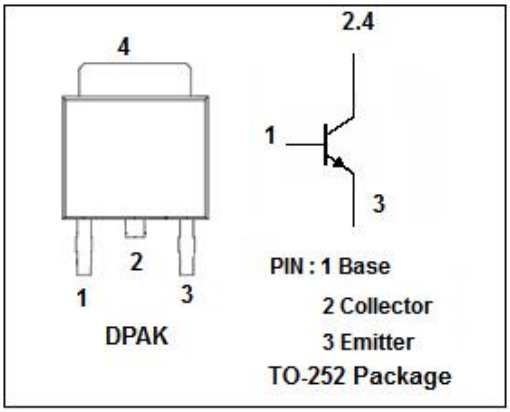
isc Silicon NPN Power Transistor — 2STD1665

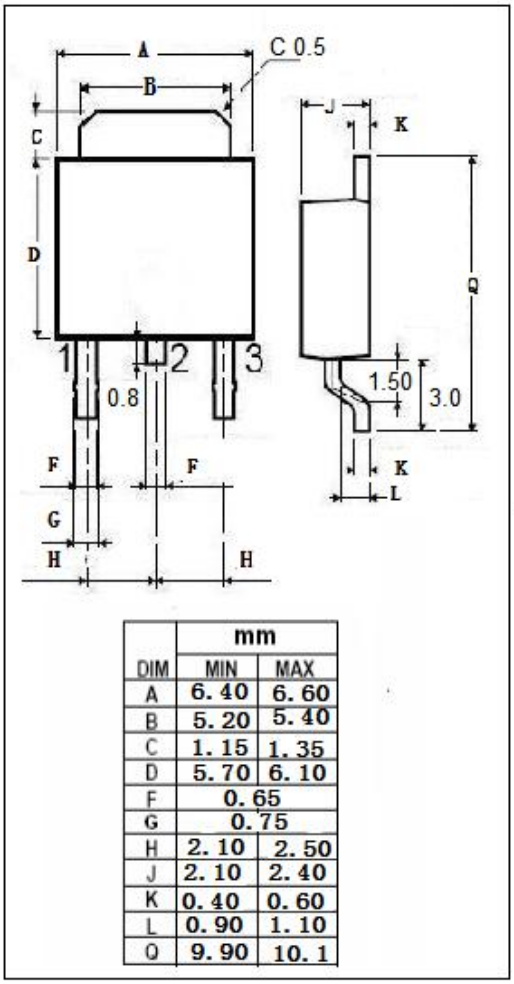
DESCRIPTION

- Low collector saturation voltage
- High current gain characteristics
- Fast-switching speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Voltage regulators
- High efficiency low voltage switching



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	150	V
V_{CEO}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Peak Current	20	A
P_C	Collector Power Dissipation	15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)-1}$NOTE	Collector-Emitter Saturation Voltage	I_C= 0.1A; I_B= 5mA			50	mV
$V_{CE(sat)-2}$NOTE	Collector-Emitter Saturation Voltage	I_C= 1.0A; I_B= 50mA			0.12	V
$V_{CE(sat)-3}$NOTE	Collector-Emitter Saturation Voltage	I_C= 2.0A; I_B= 50mA			0.20	V
$V_{CE(sat)-4}$NOTE	Collector-Emitter Saturation Voltage	I_C= 6.0A; I_B= 150mA			0.60	V
$V_{CE(sat)-5}$NOTE	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 300mA			0.38	V
$V_{BE(sat)}$NOTE	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 200mA			1.15	V
$V_{BE(ON)}$NOTE	Base-Emitter On Voltage	I_C= 4A;V_{CE}=1V			1.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V; I_E= 0			50	nA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			10	nA
h_{FE-1}	DC Current Gain	I_C= 10mA; V_{CE}= 1V	150			
h_{FE-2}	DC Current Gain	I_C= 2A; V_{CE}= 1V	150		350	
h_{FE-3}	DC Current Gain	I_C= 5A; V_{CE}= 1V	90			
h_{FE-4}	DC Current Gain	I_C= 10A; V_{CE}= 1V	30			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f= 1.0MHz		45		pF

NOTE:Pulse test PW≤300us,duty cycle ≤2%

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