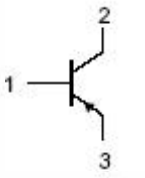
isc Silicon PNP Power Transistors — D45VH Series

DESCRIPTION

- Low Saturation Voltage
- Fast Switching Speed
- Complement to Type D44VH Series
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

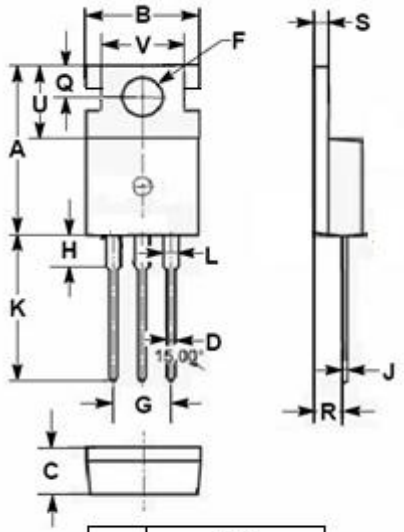
- Designed for high-speed switching applications, such as switching regulators and high frequency inverters. They are also well-suited for drivers for high power switching circuits.



PIN 1. BASE
2.COLLECTOR
3. EMITTER
TO-220C package

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	D45VH 1	-50	V
		D45VH 4	-70	
		D45VH 7	-80	
		D45VH 10	-100	
V_{CEO}	Collector-Emitter Voltage	D45VH 1	-30	V
		D45VH 4	-45	
		D45VH 7	-60	
		D45VH 10	-80	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current-Continuous		-15	A
I_{CM}	Collector Current-Peak		-20	A
P_C	Collector Power Dissipation @T_C=25℃		83	W
T_j	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-55~150	℃



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	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	12.80	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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.5	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	62.5	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	D45VH 1	I_C= -25mA ;I_B= 0	-30			V
		D45VH 4		-45			
		D45VH 7		-60			
		D45VH 10		-80			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		I_C= -8A ;I_B= -0.8A			-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= -15A ;I_B= -3A;T_C=100℃			-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C= -8A ;I_B= -0.8A I_C= -8A ;I_B= -0.8A;T_C=100℃			-1.0 -1.5	V
I_{CEV}	Collector Cutoff Current		V_{CE}=RatedV_{CE};$V_{BE(off)}$=-4V V_{CE}=RatedV_{CE};$V_{BE(off)}$=-4V;T_C=100℃			-10 -100	μA
I_{EBO}	Emitter Cutoff Current		V_{EB}= -7V; I_C= 0			-10	μA
h_{FE-1}	DC Current Gain		I_C= -2A ; V_{CE}= -1V	35			
h_{FE-2}	DC Current Gain		I_C= -4A ; V_{CE}= -1V	20			
C_{OB}	Output Capacitance		I_E= 0;V_{CB}= -10V,f_{test}= 1.0MHz		275		pF
f_T	Current-Gain—Bandwidth Product		I_C= 0.1A;V_{CE}= -10V;f_{test}= 20MHz		50		MHz
Switching Times							
t_d	Delay Time		I_C= -8A; I_{B1}= -I_{B2}= -0.8A V_{CC}= -20V			50	ns
t_r	Rise Time					250	ns
t_s	Storage Time					700	ns
t_f	Fall Time					90	ns