

isc Silicon PNP Power Transistors

D45VH Series

DESCRIPTION

- Low Saturation Voltage
- Fast Switching Speed
- Complement to Type D44VH Series

APPLICATIONS

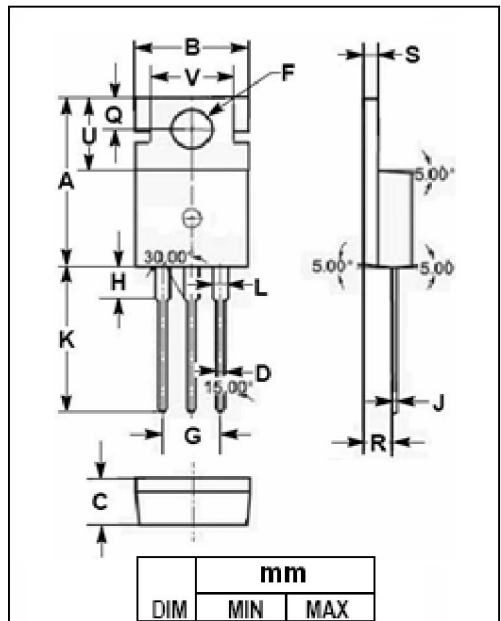
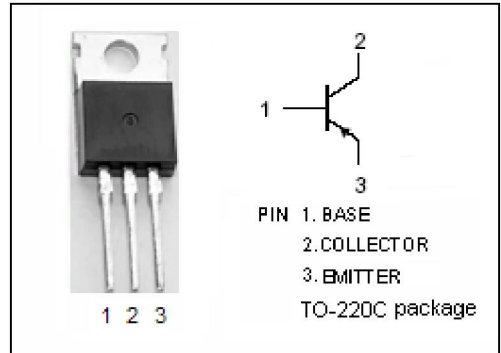
- Designed for high-speed switching applications, such as switching regulators and high frequency inverters. They are also well-suited for drivers for high power switching circuits.

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

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°C	83	W	
T _j	Junction Temperature	150	°C	
T _{stg}	Storage Temperature Range	-55~150	°C	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.5	°C/W
R _{th j-a}	Thermal Resistance, Junction to Ambient	62.5	°C/W



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	D45VH 1	$I_C = -25\text{mA}; I_B = 0$	-30			V
		D45VH 4		-45			
		D45VH 7		-60			
		D45VH 10		-80			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -8\text{A}; I_B = -0.8\text{A}$			-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C = -15\text{A}; I_B = -3\text{A}; T_C = 100^{\circ}\text{C}$			-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C = -8\text{A}; I_B = -0.8\text{A}$			-1.0	V
			$I_C = -8\text{A}; I_B = -0.8\text{A}; T_C = 100^{\circ}\text{C}$			-1.5	
I_{CEV}	Collector Cutoff Current		$V_{CE} = \text{Rated } V_{CE}; V_{BE(off)} = -4\text{V}$ $V_{CE} = \text{Rated } V_{CE}; V_{BE(off)} = -4\text{V}; T_C = 100^{\circ}\text{C}$			-10 -100	μA
I_{EBO}	Emitter Cutoff Current		$V_{EB} = -7\text{V}; I_C = 0$			-10	μA
h_{FE-1}	DC Current Gain		$I_C = -2\text{A}; V_{CE} = -1\text{V}$	35			
h_{FE-2}	DC Current Gain		$I_C = -4\text{A}; V_{CE} = -1\text{V}$	20			
C_{OB}	Output Capacitance		$I_E = 0; V_{CB} = -10\text{V}; f_{\text{test}} = 1.0\text{MHz}$		275		pF
f_T	Current-Gain—Bandwidth Product		$I_C = 0.1\text{A}; V_{CE} = -10\text{V}; f_{\text{test}} = 20\text{MHz}$		50		MHz

Switching Times

t_d	Delay Time	$I_C = -8\text{A}; I_{B1} = -I_{B2} = -0.8\text{A}$ $V_{CC} = -20\text{V}$			50	ns
t_r	Rise Time				250	ns
t_s	Storage Time				700	ns
t_f	Fall Time				90	ns