New Jersey Semi-Conductor Products, Inc.

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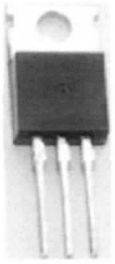
D44Q1/3/5

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 125V(Min)- D44Q1
  = 175V(Min)- D44Q3
  = 225V(Min)- D44Q5
- High Switching Speed
- Low Saturation Voltage

APPLICATIONS

- Designed for linear and switching applications.



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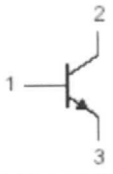


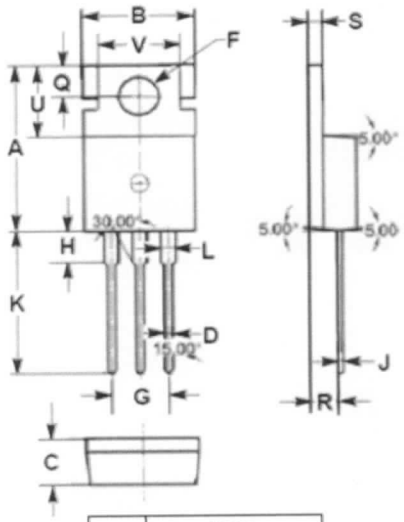
PIN 1. BASE
2. COLLECTOR
3. EMITTER
TO-220C package

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	D44Q1	200	V
		D44Q3	250	
		D44Q5	300	
V_{CEO}	Collector-Emitter Voltage	D44Q1	125	V
		D44Q3	175	
		D44Q5	225	
V_{EBO}	Emitter-Base Voltage		7	V
I_C	Collector Current-Continuous		4	A
P_C	Collector Power Dissipation @ T_C=25℃		31.25	W
P_C	Collector Power Dissipation @ T_a=25℃		1.67	
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	4	℃/W
$R_{th\,j\text{-}a}$	Thermal Resistance, Junction to Ambient	75	℃/W



DIM	mm MIN	mm 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

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	D44Q1	I_C= 10mA ;I_B= 0	125			V
		D44Q3		175			
		D44Q5		225			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= 2A; I_B= 0.2A			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C= 2A; I_B= 0.2A			1.3	V
I_{CBO}	Collector Cutoff Current	D44Q1	V_{CB}= 200V;I_E= 0			10	μA
		D44Q3	V_{CB}= 250V;I_E= 0			10	
		D44Q5	V_{CB}= 300V;I_E= 0			10	
h_{FE-1}	DC Current Gain		I_C= 0.2A ; V_{CE}= 10V	30			
h_{FE-2}	DC Current Gain		I_C= 2A ; V_{CE}= 10V	20			
f_T	Current-Gain—Bandwidth Product		I_C= 0.1A; V_{CE}= 10V		20		MHz
C_{OB}	Output Capacitance		I_E= 0; V_{CB}= 10V; f= 1MHz		32		pF

Switching Times

t_{on}	Delay Time	V_{CC}= 50V I_C= 1A; I_{B1}= -I_{B2}= 0.1A			0.4	μs
t_{stg}	Storage Time		5		2.0	μs
t_f	Fall Time				1.7	μs