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Manufacturers of World Class Discrete Semiconductors

MPSA44
MPSA45

NPN SILICON TRANSISTOR
HIGH VOLTAGE

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR MPSA44 series types are silicon NPN transistors designed for extremely high voltage applications.

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

	SYMBOL	MPSA44	MPSA45	UNIT
Collector-Base Voltage	V_{CBO}	500	400	V
Collector-Emitter Voltage	V_{CEO}	400	350	V
Emitter-Base Voltage	V_{EBO}	6.0	6.0	V
Collector Current	I_C	300		mA
Power Dissipation	P_D	625		mW
Power Dissipation (T_C=25°C)	P_D	1.5		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		°C
Thermal Resistance	ΘJA	200		°C/W
Thermal Resistance	ΘJC	83.3		°C/W

ELECTRICAL CHARACTERISTICS (T_A=25°C)

		MPSA44		MPSA45		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNIT
I_{CBO}	V_{CB}=400V		0.1		-	μA
I_{CBO}	V_{CB}=320V		-		0.1	μA
I_{CES}	V_{CE}=400V		500		-	nA
I_{CES}	V_{CE}=320V		-		500	nA
I_{EBO}	V_{EB}=4.0V		0.1		0.1	μA
BV_{CBO}	I_C=100μA	500		400		V
BV_{CES}	I_C=100μA	500		400		V
BV_{CEO}	I_C=1.0mA	400		350		V
BV_{EBO}	I_E=10μA	6.0		6.0		V
$V_{CE(SAT)}$	I_C=1.0mA, I_B=0.1mA		0.4		0.4	V
$V_{CE(SAT)}$	I_C=10mA, I_B=1.0mA		0.5		0.5	V
$V_{CE(SAT)}$	I_C=50mA, I_B=5.0mA		0.75		0.75	V
$V_{BE(SAT)}$	I_C=10mA, I_C=1.0mA		0.75		0.75	V
h_{FE}	V_{CE}=10V, I_C=1.0mA	40		40		
h_{FE}	V_{CE}=10V, I_C=10mA	50	200	50	200	
h_{FE}	V_{CE}=10V, I_C=50mA	45		45		
h_{FE}	V_{CE}=10V, I_C=100mA	40		40		
f_T	V_{CE}=10V, I_C=10mA, f=10MHz	20		20		MHz
C_{ob}	V_{CB}=20V, I_E=0, f=1.0MHz		6.0		6.0	pF
C_{ib}	V_{EB}=0.5V, I_C=0, f=1.0MHz		110		110	pF