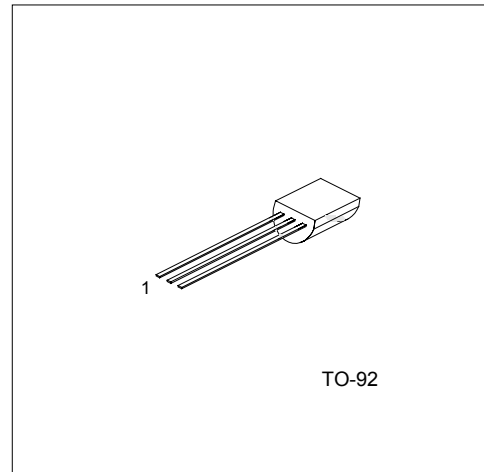


HIGH VOLTAGE TRANSISTOR

FEATURES

- *Collector-Emitter voltage: $V_{CEO}=400V$
- *Collector current up to 300mA
- *Complement to MPSA94
- *Collector Dissipation: $P_c(\max)=625mW$



1: BASE 2: EMITTER 3: COLLECTOR

*Pb-free plating product number: MPSA44BL

ABSOLUTE MAXIMUM RATINGS

(Operating temperature range applies unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V_{CBO}	500	V
Collector-emitter voltage	V_{CEO}	400	V
Emitter-base voltage	V_{EBO}	6	V
Collector dissipation($T_a=25^\circ C$)	P_c	625	mW
Collector dissipation($T_c=25^\circ C$)	P_c	1.5	W
Collector current	I_c	300	mA
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ C$

ELECTRICAL CHARACTERISTICS

($T_j=25^\circ C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV_{CBO}	$I_c=100\mu A, I_B=0$	500			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_c=1mA, I_B=0$	400			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=100\mu A, I_c=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=400V, I_E=0$			0.1	μA
Collector cut-off current	I_{CES}	$V_{CE}=400V, I_B=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_c=0$			0.1	μA
DC current gain(note)	h_{FE}	$V_{CE}=10V, I_c=1mA$	40		240	
		$V_{CE}=10V, I_c=10mA$	50			
		$V_{CE}=10V, I_c=50mA$	45			
		$V_{CE}=10V, I_c=100mA$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=1mA, I_B=0.1mA$			0.4	V
		$I_c=10mA, I_B=1mA$			0.5	
		$I_c=50mA, I_B=5mA$			0.75	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c=10mA, I_B=1mA$			0.75	V
Current gain bandwidth product	f_T	$V_{CE}=20V, I_c=10mA, f=100MHz$	50			MHz
Output capacitance	C_{ob}	$V_{CB}=20V, I_E=0, f=1MHz$			7	pF

Note: Pulse test: PW<300μs, Duty Cycle<2%

TYPICAL CHARACTERISTIC CURVES

Fig.1 DC current gain

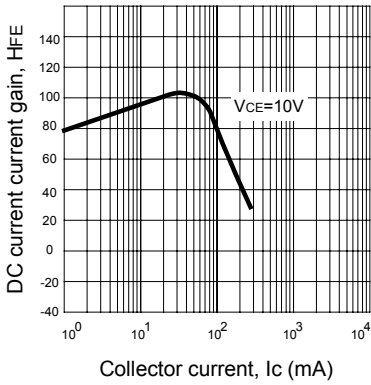


Fig.2 Turn-on switching times

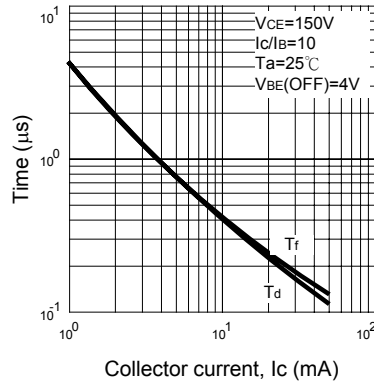


Fig.3 Turn-off switching times

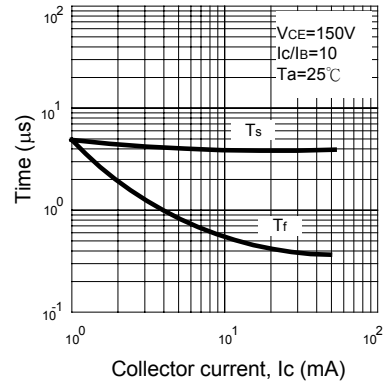


Fig.4 Capacitance

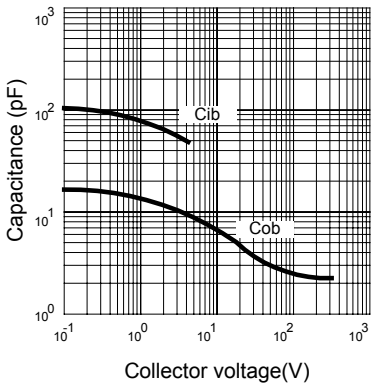


Fig.5 ON Voltage

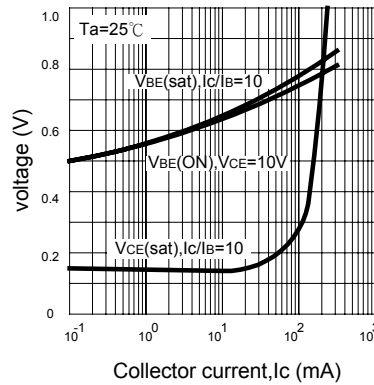


Fig.6 Collector saturation region

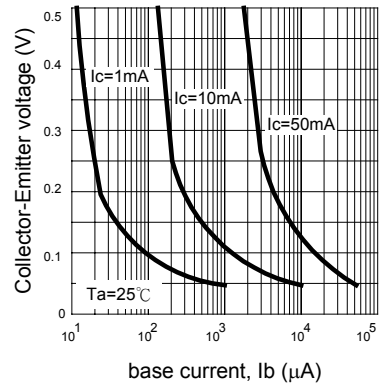


Fig.7 High Frequency current gain

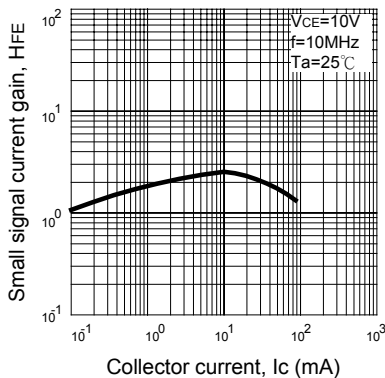
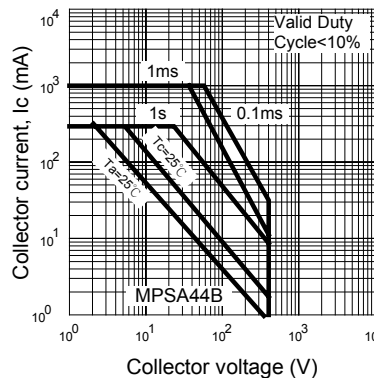


Fig.8 Safe operating area



UTC MPSA44B NPN EPITAXIAL SILICON TRANSISTOR

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