



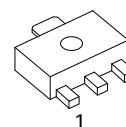
MPSA44A

NPN SILICON TRANSISTOR

HIGH VOLTAGE TRANSISTOR

■ FEATURES

- * Collector-Emitter Voltage: $V_{CE0}=400V$
- * Collector Current up to 300mA



SOT-89

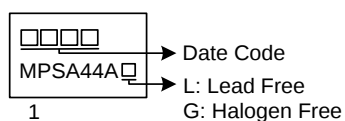
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA44AL-AB3-R	MPSA44AG-AB3-R	SOT-89	B	C	E	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter

MPSA44AG-AB3-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING



■ ABSOLUTE MAXIMUM RATING

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 Current	I_C	300	mA
Collector Current (Peak)	I_{CM}	1000	mA
Collector Dissipation	P_C	500	mW
Junction Temperature	T_J	+125	°C
Operating Temperature	T_{OPR}	-20 ~ +85	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_J=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	500			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$	6			V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=400\text{V}$, $I_E=0$			0.1	μA
Collector Cutoff Current	I_{CES}	$V_{CE}=400\text{V}$, $I_B=0$			0.5	μA
Emitter-Base Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}$, $I_C=0$			0.1	μA

ON CHARACTERISTICS

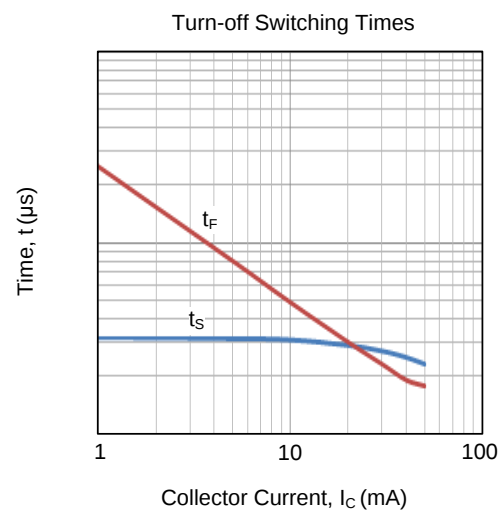
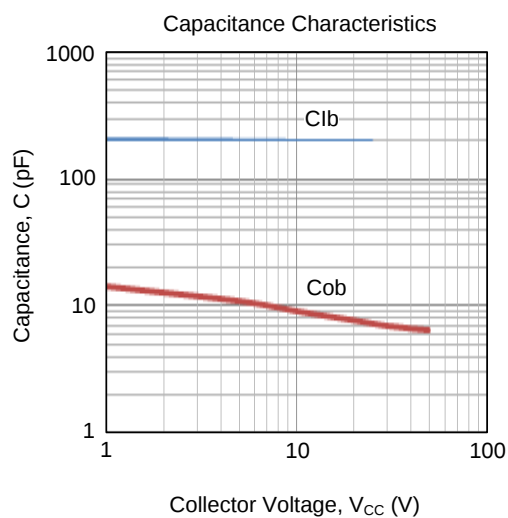
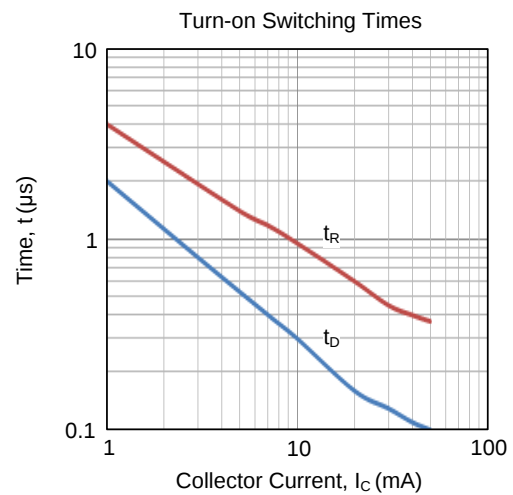
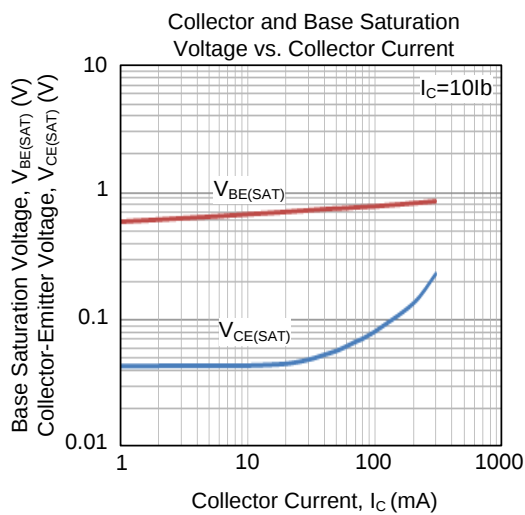
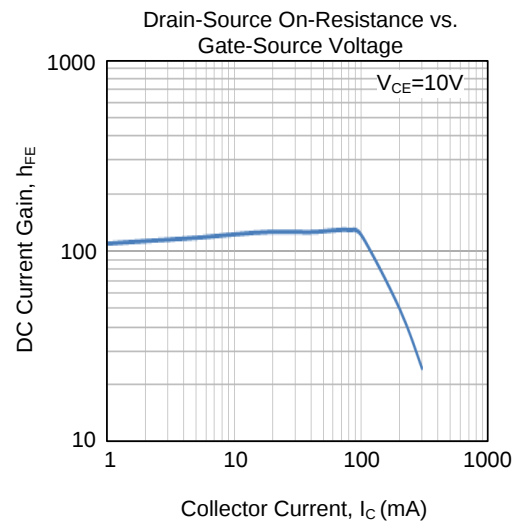
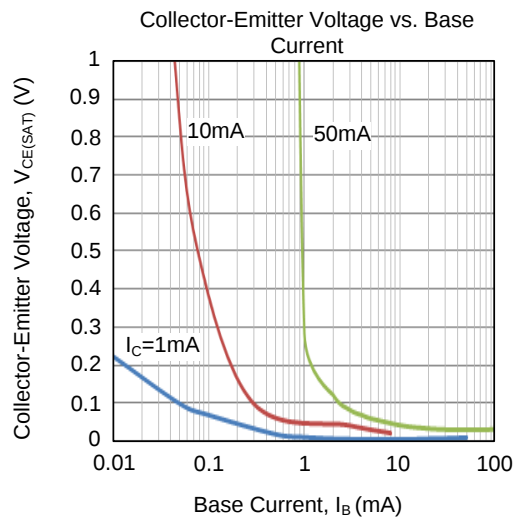
DC Current Gain (Note)	h_{FE}	$V_{CE}=10\text{V}$, $I_C=1\text{mA}$	25		240	
		$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	25		240	
		$V_{CE}=10\text{V}$, $I_C=50\text{mA}$	45		240	
		$V_{CE}=10\text{V}$, $I_C=100\text{mA}$	40		240	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=1\text{mA}$, $I_B=0.1\text{mA}$			0.4	V
		$I_C=10\text{mA}$, $I_B=1\text{mA}$			0.5	
		$I_C=50\text{mA}$, $I_B=5\text{mA}$			0.75	
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$			0.75	V

SMALL-SIGNAL CHARACTERISTICS

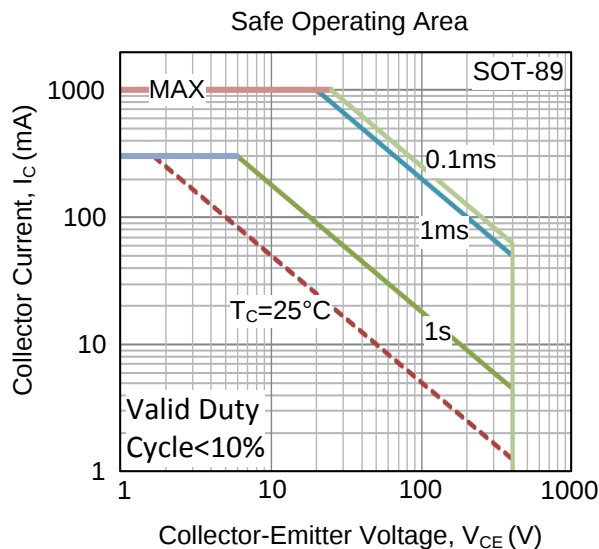
Current Gain Bandwidth Product	f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	50			MHz
Output Capacitance	C_{OB}	$V_{CB}=20\text{V}$, $I_E=0$, $f=1\text{MHz}$			7	pF

Note: Pulse test: $P_W < 300\mu\text{s}$, Duty Cycle $< 2\%$.

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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