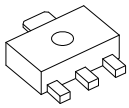
MPSA44A

NPN SILICON TRANSISTOR

HIGH VOLTAGE TRANSISTOR



SOT-89

■ FEATURES

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

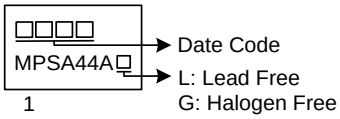
■ ORDERING INFORMATION

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

■ 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.

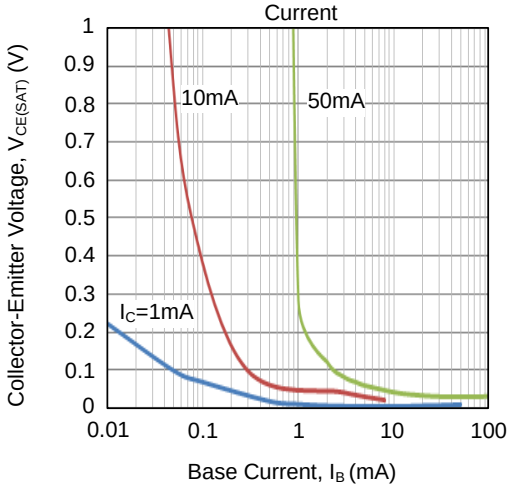
■ ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, I_E=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=100μA, I_C=0	6			V
Collector-Base Cutoff Current	I_{CBO}	V_{CB}=400V, I_E=0			0.1	μA
Collector Cutoff Current	I_{CES}	V_{CE}=400V, I_B=0			0.5	μA
Emitter-Base Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
ON CHARACTERISTICS						
DC Current Gain (Note)	h_{FE}	V_{CE}=10V, I_C=1mA	25		240	
		V_{CE}=10V, I_C=10mA	25		240	
		V_{CE}=10V, I_C=50mA	45		240	
		V_{CE}=10V, I_C=100mA	40		240	
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
SMALL-SIGNAL CHARACTERISTICS						
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

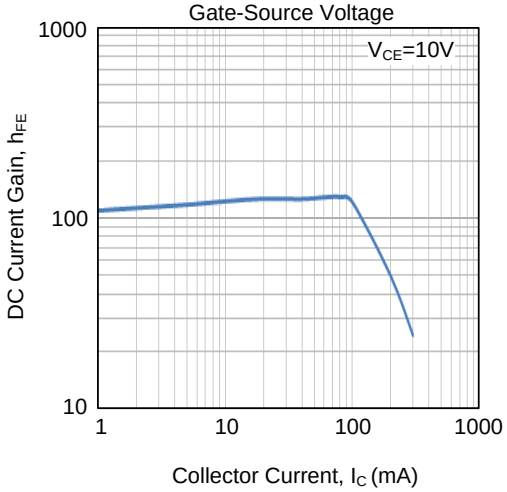
Note: Pulse test: P_W < 300μs, Duty Cycle < 2%.

■ TYPICAL CHARACTERISTICS

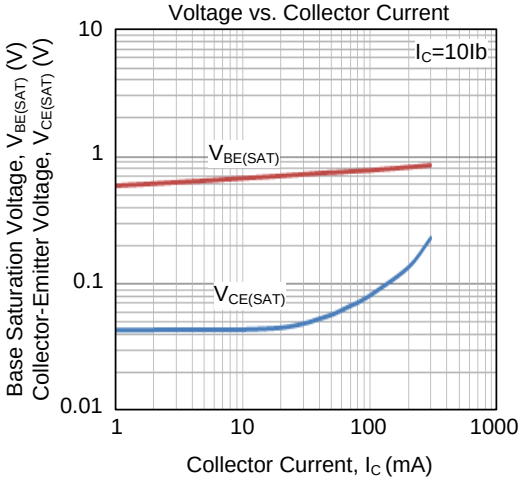
Collector-Emitter Voltage vs. Base Current



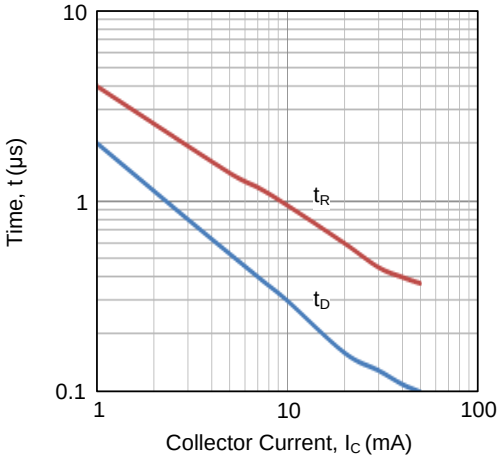
Drain-Source On-Resistance vs. Gate-Source Voltage



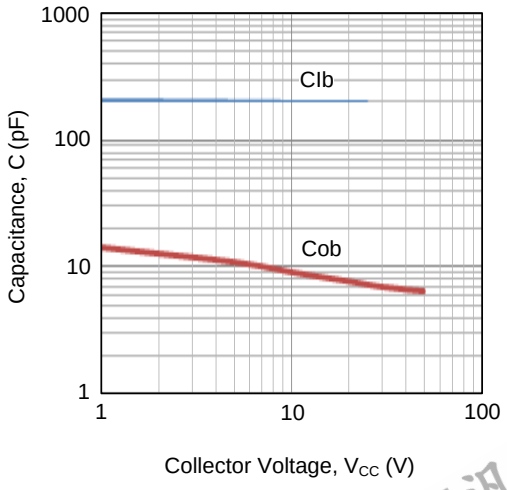
Collector and Base Saturation Voltage vs. Collector Current



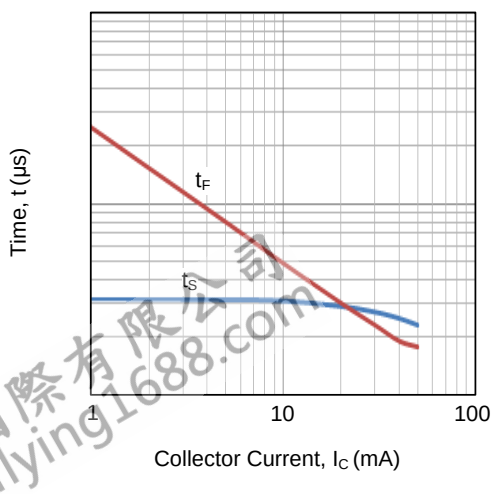
Turn-on Switching Times



Capacitance Characteristics



Turn-off Switching Times



■ TYPICAL CHARACTERISTICS (Cont.)