



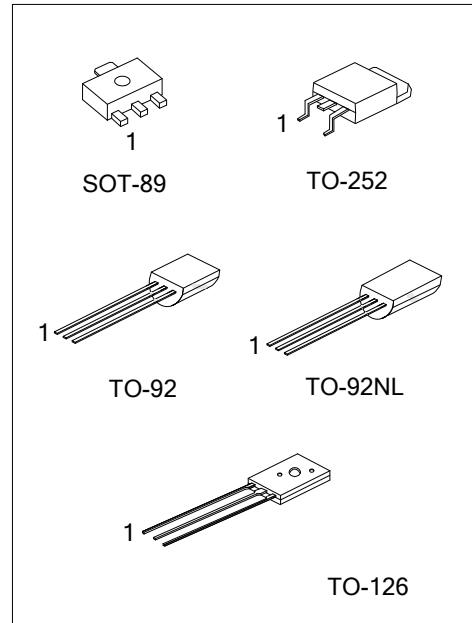
MPSA44/45

NPN SILICON TRANSISTOR

HIGH VOLTAGE TRANSISTOR

■ **FEATURES**

- * Collector-Emitter Voltage:
- * $V_{CEO}=400V$ (UTC **MPSA44**)
- * $V_{CEO}=350V$ (UTC **MPSA45**)
- * Collector Current up to 300mA



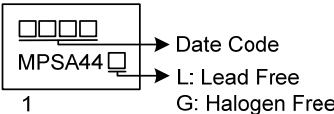
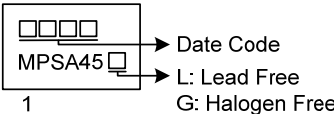
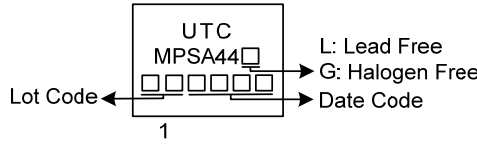
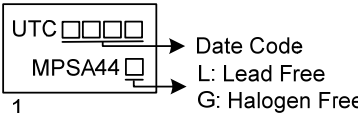
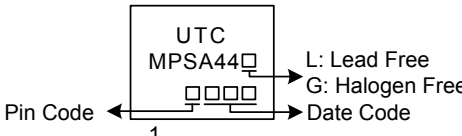
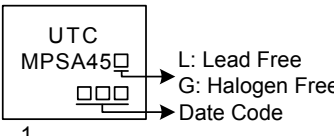
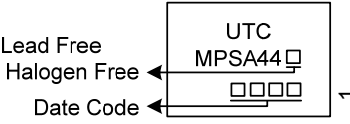
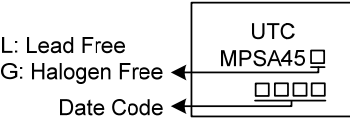
■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA44L-AB3-R	MPSA44G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA44L-AN3-R	MPSA44G-TN3-R	TO-252	B	C	E	Tape Reel
MPSA44L-T60-K	MPSA44G-T60-K	TO-126	B	C	E	Bulk
MPSA44L-T92-B	MPSA44G-T92-B	TO-92	E	B	C	Tape Box
MPSA44L-T92-K	MPSA44G-T92-K	TO-92	E	B	C	Bulk
MPSA44L-T92-A-B	MPSA44G-T92-A-B	TO-92	E	C	B	Tape Box
MPSA44L-T92-A-K	MPSA44G-T92-A-K	TO-92	E	C	B	Bulk
MPSA44L-T9N-B	MPSA44G-T9N-B	TO-92NL	E	C	B	Tape Box
MPSA44L-T9N-K	MPSA44G-T9N-K	TO-92NL	E	C	B	Bulk
MPSA45L-AB3-R	MPSA45G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA45L-T92-B	MPSA45G-T92-B	TO-92	E	B	C	Tape Box
MPSA45L-T92-K	MPSA45G-T92-K	TO-92	E	B	C	Bulk
MPSA45L-T9N-B	MPSA45G-T9N-B	TO-92NL	E	B	C	Tape Box
MPSA45L-T9N-K	MPSA45G-T9N-K	TO-92NL	E	B	C	Bulk

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

<p>MPSA44G-T92-A-B</p>	<p>(1) Packing Type (2) Pin Assignment (3) Package Type (4) Green Package</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AB3: SOT-89, TN3: TO-252, T60: TO-126, T92: TO-92, T9N: TO-92NL (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

Package	MPSA44	MPSA45
SOT-89	 <p> Date Code L: Lead Free G: Halogen Free </p>	 <p> Date Code L: Lead Free G: Halogen Free </p>
TO-252	 <p> Lot Code L: Lead Free G: Halogen Free Date Code </p>	-
TO-126	 <p> Date Code L: Lead Free G: Halogen Free </p>	-
TO-92	 <p> Pin Code L: Lead Free G: Halogen Free Date Code </p>	 <p> L: Lead Free G: Halogen Free Date Code </p>
TO-92NL	 <p> L: Lead Free G: Halogen Free Date Code </p>	 <p> L: Lead Free G: Halogen Free Date Code </p>

■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage	MPSA44	V_{CBO}	500	V
	MPSA45		400	
Collector-Emitter Voltage	MPSA44	V_{CES}	500	V
	MPSA45		400	
Collector-Emitter Voltage	MPSA44	V_{CEO}	400	V
	MPSA45		350	
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current		I_C	300	mA
Collector Current (Peak)		I_{CM}	1000	mA
Collector Dissipation($T_A=25^{\circ}C$)	SOT-89	P_C	500	mW
	TO-252		1400	mW
	TO-126		1200	mW
	TO-92		625	mW
	TO-92NL			
Operating Junction Temperature		T_J	-40 ~ +150	$^{\circ}C$
Storage Temperature		T_{STG}	-40 ~ +150	$^{\circ}C$

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.

■ THERMAL DATA

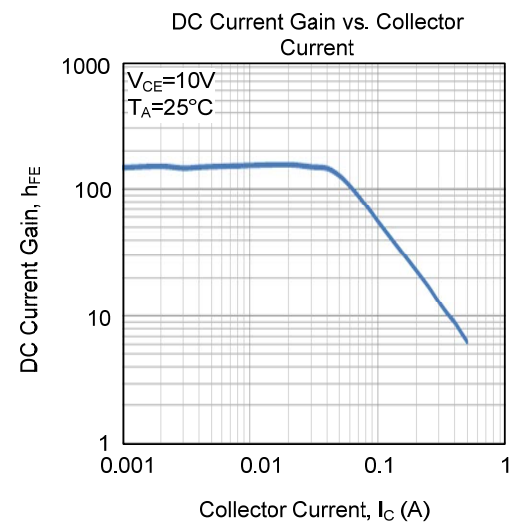
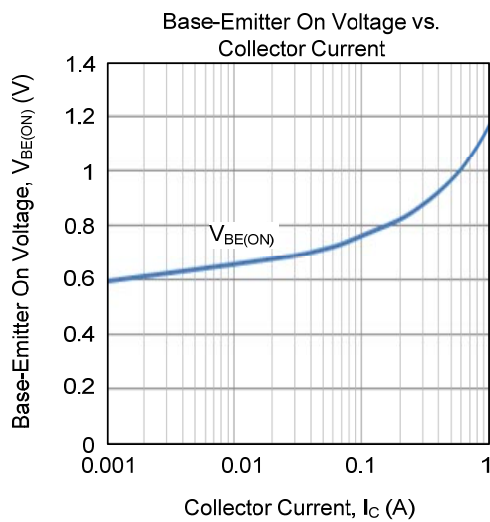
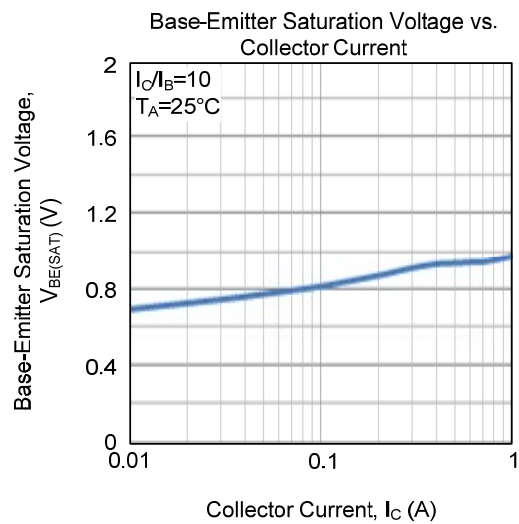
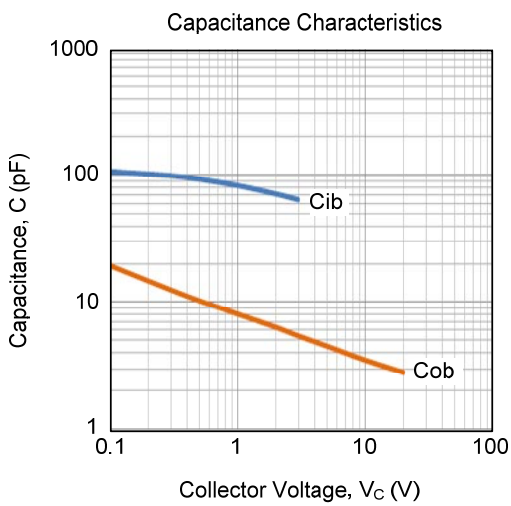
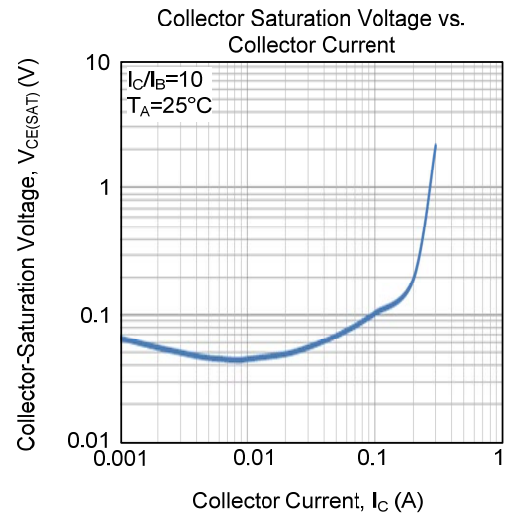
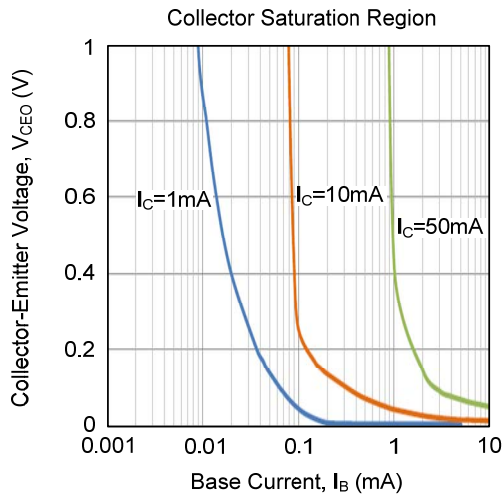
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-89	θ_{JA}	250	$^{\circ}C/W$
	TO-252		89	$^{\circ}C/W$
	TO-126		105	$^{\circ}C/W$
	TO-92		200	$^{\circ}C/W$
	TO-92NL			
Junction to Case	SOT-89	θ_{JC}	167	$^{\circ}C/W$
	TO-252		4	$^{\circ}C/W$
	TO-126		13	$^{\circ}C/W$
	TO-92		100	$^{\circ}C/W$
	TO-92NL			

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

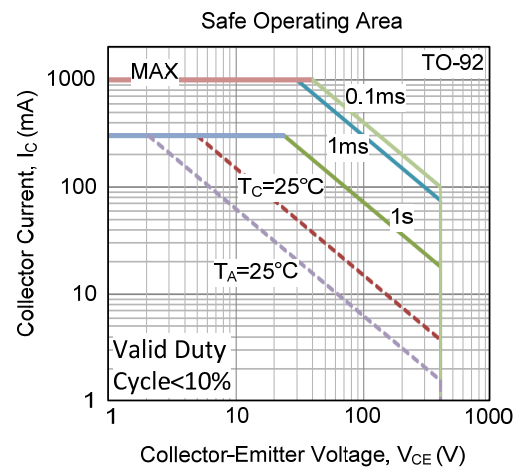
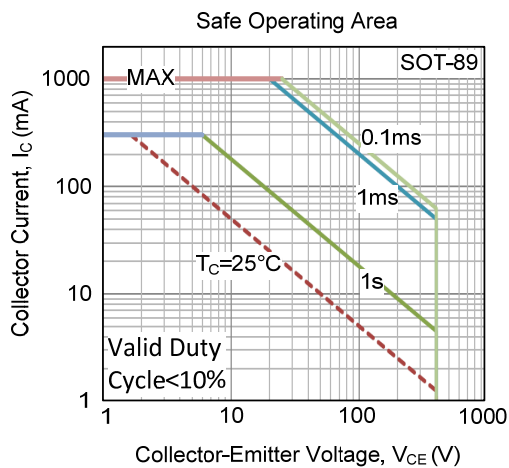
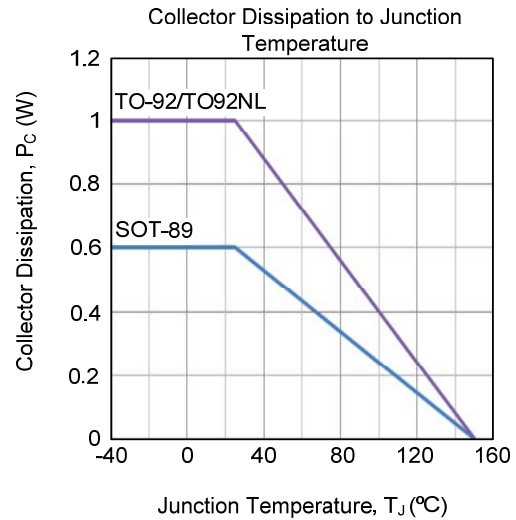
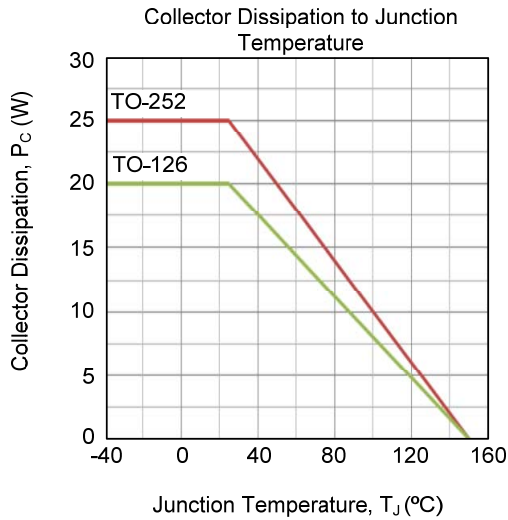
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	MPSA44	BV _{CBO}	I _C =100μA, I _E =0	500			V
	MPSA45			400			V
Collector-Emitter Breakdown Voltage	MPSA44	BV _{CES}	I _C =100μA, I _B =0, V _{EB} =0V	500			V
	MPSA45			400			V
Collector-Emitter Breakdown Voltage	MPSA44	BV _{CEO}	I _C =1mA, I _B =0	400			V
	MPSA45			350			V
Emitter-Base Breakdown Voltage		BV _{EBO}	I _E =100μA, I _C =0	6			V
Collector-Base Cutoff Current	MPSA44	I _{CBO}	V _{CB} =400V, I _E =0			0.1	μA
	MPSA45		V _{CB} =320V, I _E =0			0.1	μA
Collector Cutoff Current	MPSA44	I _{CES}	V _{CE} =400V, I _B =0, V _{EB} =0V			0.5	μA
	MPSA45		V _{CE} =320V, I _B =0, V _{EB} =0V			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	80		240	
			V _{CE} =10V, I _C =10mA	82		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	V
			I _C =50mA, I _B =5mA			0.75	V
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: PW<300μs, Duty Cycle<2%

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS



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