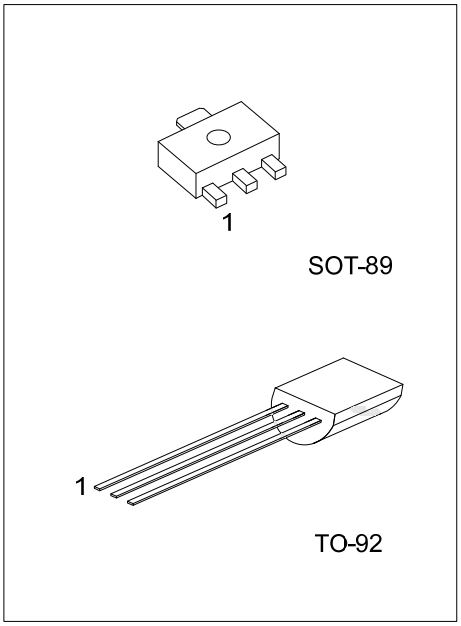
MPSA144

Preliminary | ***NPN SILICON TRANSISTOR***

HIGH VOLTAGE TRANSISTOR



■ FEATURES

* Collector-Emitter Voltage:
* V_{CEO}=500V
* Collector Current up to 300mA

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA144L-AB3-R	MPSA144G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA144L-T92-B	MPSA144G-T92-B	TO-92	E	B	C	Tape Box
MPSA144L-T92-K	MPSA144G-T92-K	TO-92	E	B	C	Bulk

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

MPSA144G-AB3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel, B: Tape Box, K: Bulk (2) AB3: SOT-89, T92: TO-92 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-89	TO-92
□□□□ MPSA144□ 1 Date Code L: Lead Free G: Halogen Free	UTC MPSA144□ □□□ 1 L: Lead Free G: Halogen Free Date Code

■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	500	V
Collector-Emitter Voltage		V_{CEO}	500	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current		I_C	300	mA
Collector Dissipation(T_A=25°C)	SOT-89	P_C	500	mW
	TO-92		625	mW
Operating Junction Temperature		T_J	-40 ~ +150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Notes: 1. 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.
2. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-89	θ_{JA}	250	°C/W
	TO-92		200	°C/W

Note：Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ 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	500			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA, I_C=0	6			V
Collector-Base Cutoff Current	I_{CBO}	V_{CB}=500V, I_E=0			0.1	μA
Collector Cutoff Current	I_{CES}	V_{CE}=500V, 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	80			
		V_{CE}=10V, I_C=10mA	82			
		V_{CE}=10V, I_C=50mA	45			
		V_{CE}=10V, I_C=100mA	20			
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

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