

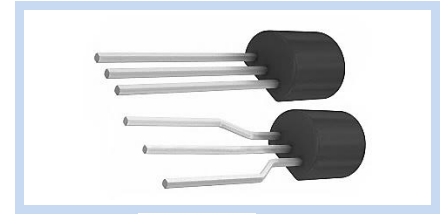
NPN Transistor 500V 625mW TO-92

MPSA44

MERITEK

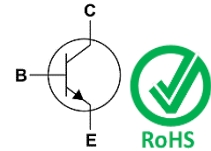
FEATURE

- Collector-emitter Voltage $V_{CE}=400V$
- Collector current: 300mA
- Application: Signal Processing, Switching, Amplification



MECHANICAL DATA

- Case: TO-92, molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026



MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	300	mA
Power Dissipation	P_D	625	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

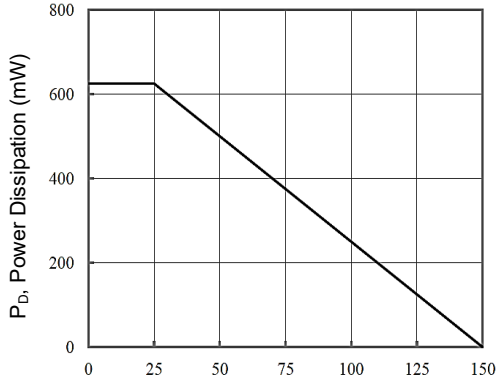
ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Min.	Max.	Unit
DC Current Gain	$V_{CE}=10V, I_C=1mA$	h_{FE}	40	--	--
	$V_{CE}=10V, I_C=10mA$		50	200	
	$V_{CE}=10V, I_C=50mA$		45	--	
	$V_{CE}=10V, I_C=100mA$		40	--	
Collector Base Cutoff Current	$V_{CB}=400V$	I_{CBO}	--	100	nA
Collector Emitter Cutoff Current	$V_{CE}=400V$	I_{CES}	--	500	nA
Emitter Base Cutoff Current	$V_{EB}=4V$	I_{EBO}	--	100	nA
Collector Base Breakdown Voltage	$I_C=100\mu A$	$V_{(BR)CBO}$	500	--	V
Collector Emitter Breakdown Voltage	$I_C=1mA$	$V_{(BR)CEO}$	400	--	V
Emitter Base Breakdown Voltage	$I_E=100\mu A$	$V_{(BR)EBO}$	6	--	V
Collector Emitter Saturation Voltage	$I_C=1mA, I_B=0.1mA$	$V_{CE(sat)}$	--	0.40	V
	$I_C=10mA, I_B=1mA$		--	0.50	
	$I_C=50mA, I_B=5mA$		--	0.75	
Base Emitter Saturation Voltage	$I_B=1mA, I_C=10mA$	$V_{BE(on)}$	--	0.75	V
Collector Output Capacitance	$V_{CB}=20V, f=1MHz$	C_{ob}	--	7	pF

Note: $T_A=25^\circ C$, unless otherwise noted.

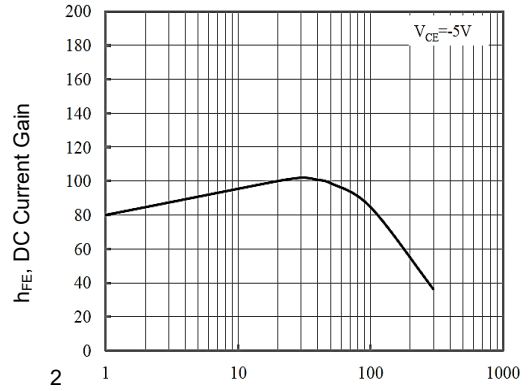
CHARACTERISTIC CURVES

Power Derating Curves



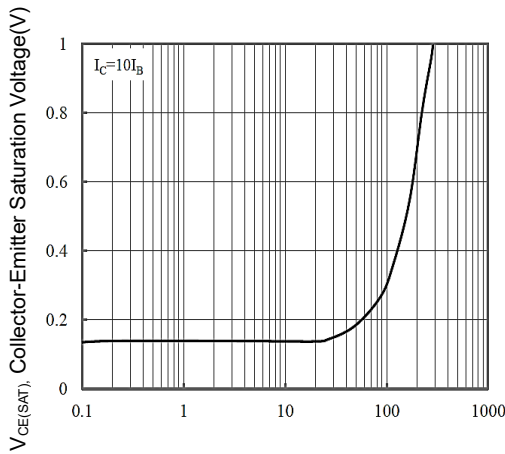
Ambient Temperature (°C)

DC Current Gain



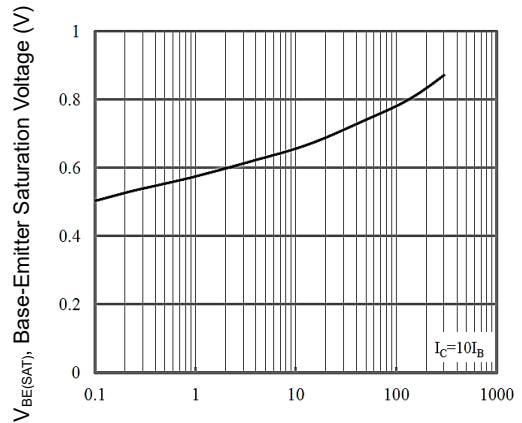
I_C , Collector Current (mA)

Collector-Emitter Saturation Voltage



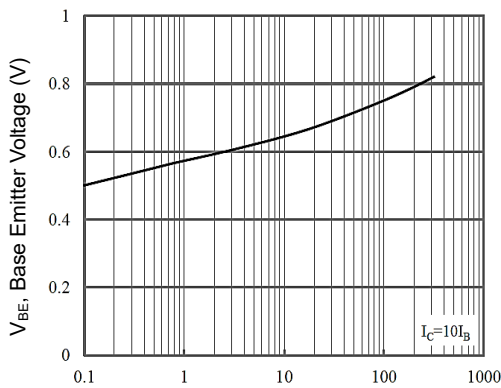
I_C , Collector Current (mA)

Base-Emitter Saturation Voltage



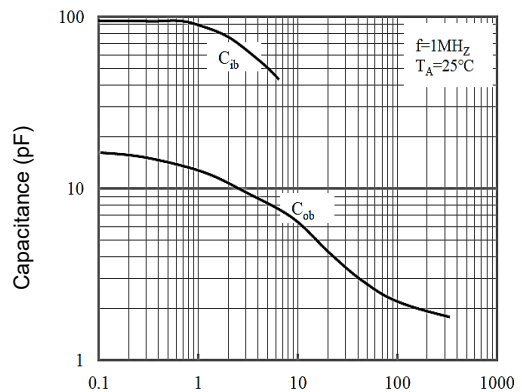
I_C , Collector Current (mA)

Base Emitter On Voltage



I_C , Collector Current (mA)

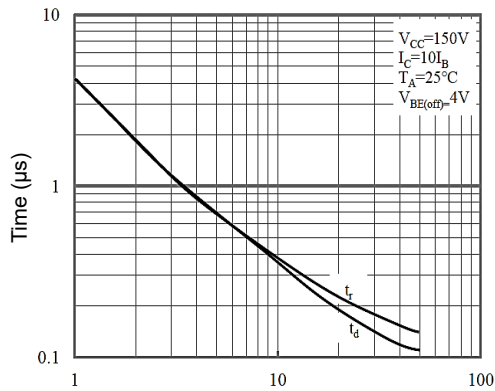
Capacitance Characteristics



V_{CB} , Collector Base Voltage (V)

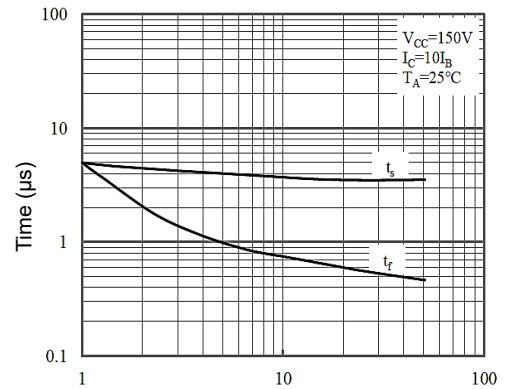
CHARACTERISTIC CURVES

Turn-On Switching Characteristics



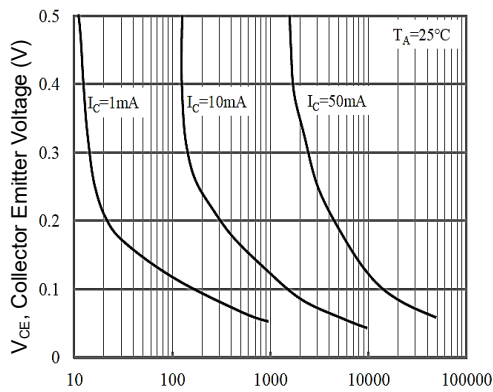
IC, Collector Current (mA)

Turn-Off Switching Characteristics



IC, Collector Current (mA)

Collector Saturation Region



I_B, Base Current (µA)

NPN Transistor 500V 625mW TO-92

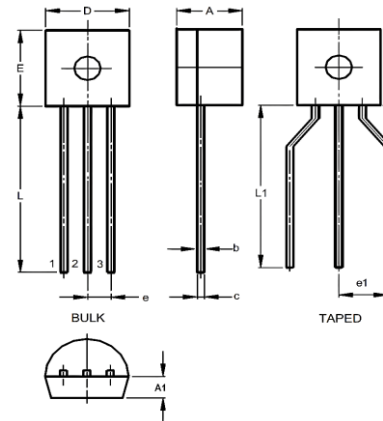
MPSA44

MERITEK

DIMENSIONS

Unit: mm

TO-92	Min	Max
A	3.50	3.70
A1	1.00	1.20
b	0.35	0.45
c	0.29	0.39
D	4.50	4.70
e	1.17	1.37
e1	2.44	2.94
E	4.50	4.70
L	12.50	--
L1	12.00	--



PACKING OPTIONS

Part NO.	Package	Packing Code	Type	Packing
MPSA44	TO-92	TA	Bent Lead	Tape & Reel Ammo
		B	Straight Lead	Bulk