HIGH VOLTAGE FAST-SWITCHING
NPN POWER TRANSISTOR

1 Features

- HIGH VOLTAGE CAPABILITY
- LOW SPREAD OF DYNAMIC PARAMETERS
- VERY HIGH SWITCHING SPEED
- LARGE RBSOA
- LOW $V_{CE(SAT)}$

2 Electrical Characteristics

2.1 Absolute Maximum Ratings

T_{amb}= 25℃ unless otherwise noted

Parameter		Symbol	Value	units
Collector-Emitter Voltage(V_{BE}=0)		V_{CES}	700	V
Collector-Base Voltage(I_E=0)		V_{CBO}	700	V
Collector-Emitter Voltage(I_B=0)		V_{CEO}	400	V
Emitter-Base Voltage(I_C=0)		V_{EBO}	9	V
Collector Current(DC)		I_C	4.5	A
Collector Current(Pulse)		I_{cp}	8.0	A
Total Dissipation	T_a=25℃	P_{tot}	75	W
Storage Temperature		Tstg	-55-150	℃
Max Operating Junction Temperature		T_j	150	℃

2.2 Electrical Characteristics

T_{amb}= 25℃ unless otherwise noted

Parameter	Symbol	Test Conditions	Value			unit
			min	typ	max	
Collector-Base Cut-off Current	I_{CB0}	V_{CB}=700V, I_E=0			100	μA
Emitter-Base Cut-off Current	I_{EB0}	V_{EB}=9V, I_C=0			100	μA
Dc Current Gain	h_{FE}	V_{CE}=5V, I_C=1.0A	10		40	
Collector-Emitter saturation Voltage	$V_{CE\ sat}$	I_C=0.5A, I_B=10mA			0.6	V
Base-Emitter Saturation Voltage	$V_{BE\ sat}$	I_C=0.5A, I_B=10mA			1.5	V
Storage time	t_s	I_C=0.5A, I_B=10mA			6	μs
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A f=1MHz	5			MHz

Typical Characteristics

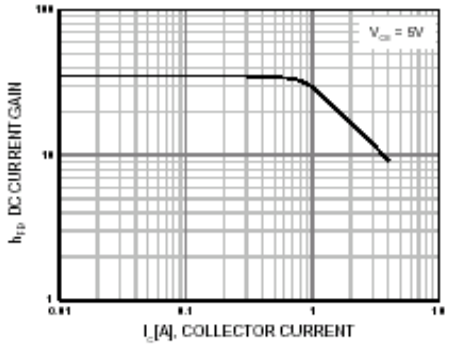


Figure 1. DC current Gain

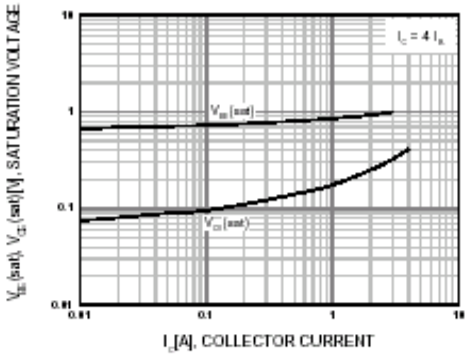


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

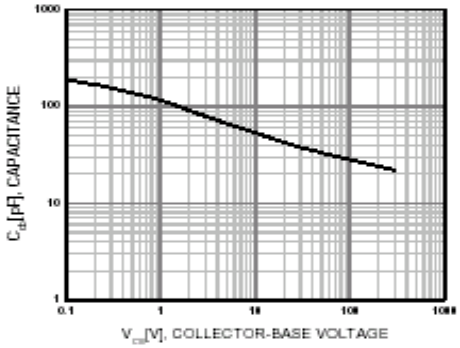


Figure 3. Collector Output Capacitance

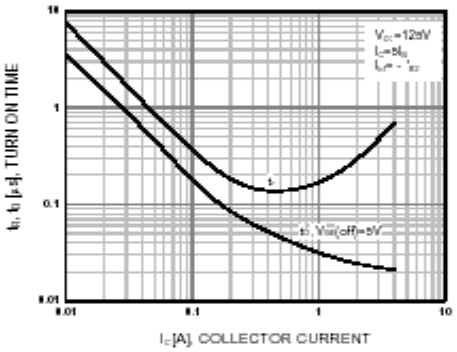


Figure 4. Turn On Time

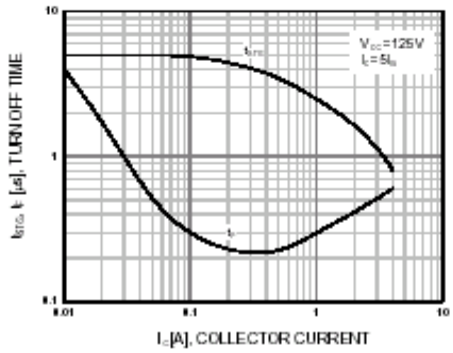


Figure 5. Turn Off Time

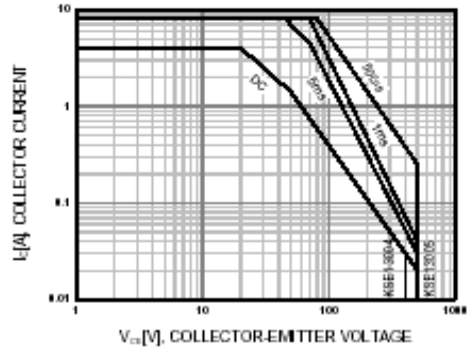
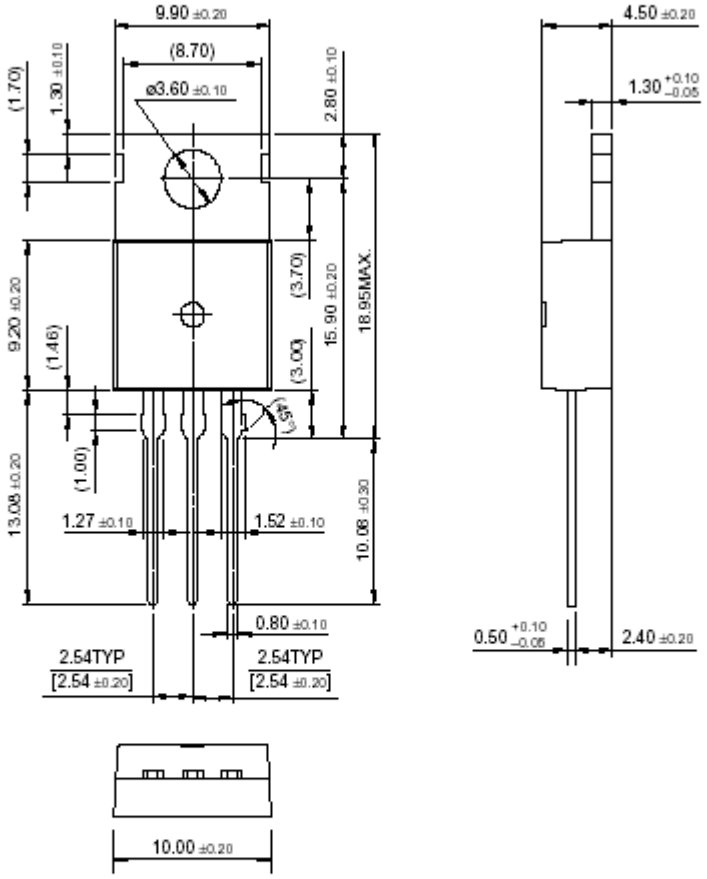


Figure 6. Safe Operating Area

Package Demensions

TO-220



Dimensions in Millimeters