



TO-92MOD Plastic-Encapsulate Transistors

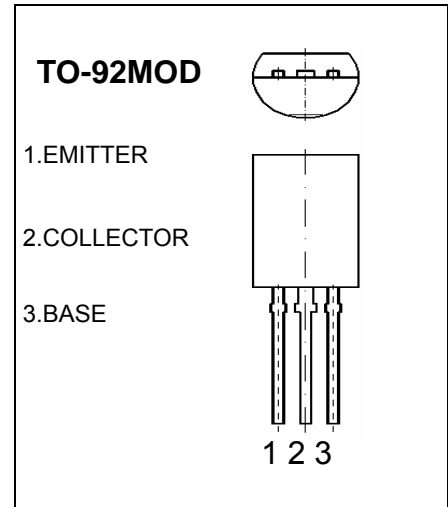
KSC2331 TRANSISTOR (NPN)

FEATURE

- Complement to KSA931
- High collector-Base Voltage: $V_{CBO}=80V$
- Collector current: $I_C=700mA$
- Collector dissipation: $P_C=1W$

MAXIMUM RATINGS ($T_A=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current -Continuous	700	mA
P_C	Collector Power Dissipation	1	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55-150	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C=100\mu A, I_E=0$	80			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C=10mA, I_B=0$	60			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=10\mu A, I_C=0$	8			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=2V, I_C=50mA$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.7	V
Base-emitter voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$			1.2	V
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		8		pF
Transition frequency	f_T	$V_{CE}=10V, I_C=50mA$	30			MHz

CLASSIFICATION OF h_{FE}

Rank	R	O	Y
Range	40-80	70-140	120-240

Typical Characteristics

KSC2331

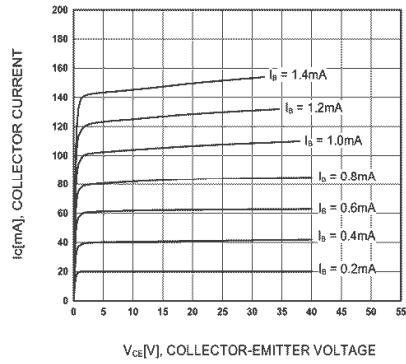


Figure 1. Static Characteristic

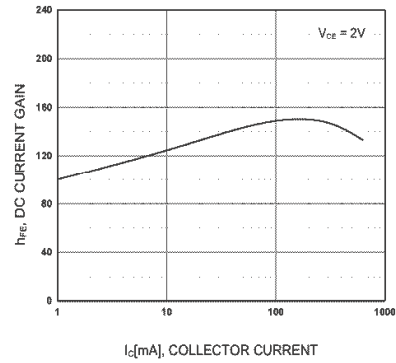


Figure 2. DC current Gain

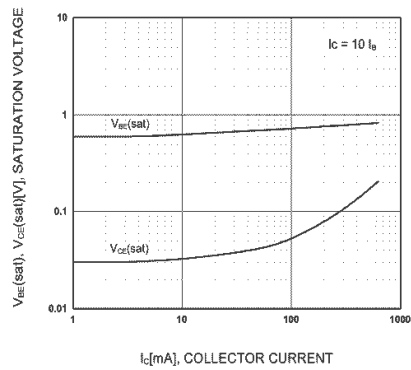


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

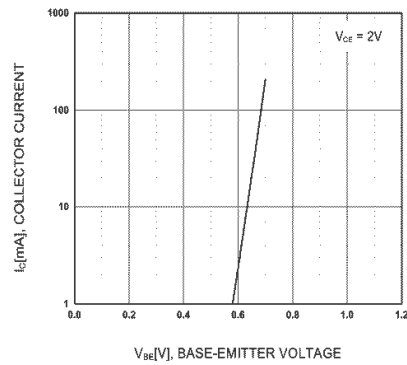


Figure 4. Base-Emitter On Voltage

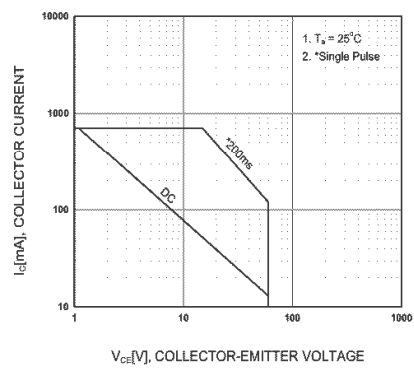


Figure 5. Safe Operating Area

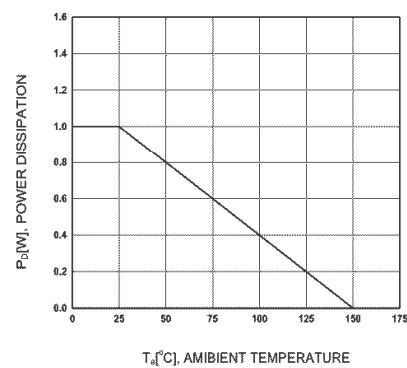


Figure 6. Power Derating