2N6249

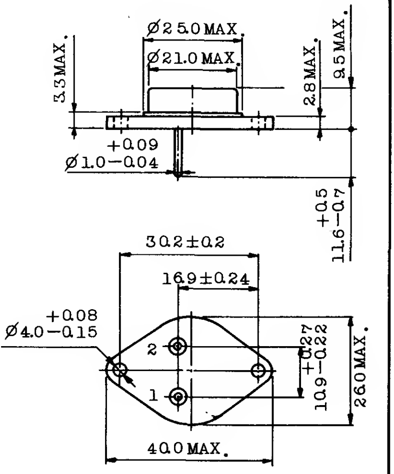
SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER AMPLIFIER, POWER SWITCHING AND DC-DC CONVERTER APPLICATIONS.

FEATURES:

- High Collector-Emitter Sustaining Voltage
  : $V_{CEO(SUS)}$=200V (Min.)
- Low Saturation Voltage : $V_{CE(sat)} < 1.5V$
  @ I_C=10A, I_B=1A
- Excellent Switching Times : $t_r < 2.0\mu s$, $t_f < 1.0\mu s$
  @ I_C=10A, I_B=±1A
- High Collector Power Dissipation Capacity
  : P_C=175W (Max.)
- Excellent Area of Safe Operatings

Unit in mm



1. BASE
2. EMITTER
   COLLECTOR (CASE)

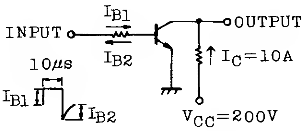
JEDEC	TO−204MA/TO−3
EIAJ	TC−3, TB−3
TOSHIBA	2−21E1A

Weight : 15.8g

MAXIMUM RATINGS (Ta=25°C)

	CHARACTERISTIC		SYMBOL	RATING	UNIT
*	Collector-Base Voltage		V_{CBO}	300	V
	Collector-Emitter Sustaining Voltage (R_{BE}=50Ω)		$V_{CER(SUS)}$	225	V
*	Collector-Emitter Sustaining Voltage (V_{BE}=0)		$V_{CEX(SUS)}$	225	V
	Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	200	V
*	Emitter-Base Voltage		V_{EBO}	6	V
*	Collector Current	DC	I_C	10	A
		Peak	I_{CM}	30	A
*	Base Current		I_B	10	A
*	Collector Power Dissipation	Tc=25°C	P_C	175	W
		Tc=100°C		100	W
	Derate Linearly above 25°C			1.0	W/°C
*	Junction Temperature		T_j	200	°C
*	Storage Temperature Range		T_{stg}	-65 ~ 200	°C
*	Lead Temperature (0.8mm from case for 10s)		T_L	230	°C

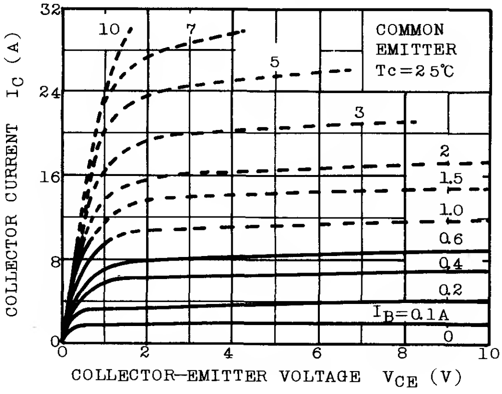
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$)

	CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
*	Collector Cut-off Current		I_{CEV}	$V_{CE}=225V$, $V_{BE}=-1.5V$	-	-	5	mA
*	Collector Cut-off Current		I_{CEV}	$V_{CE}=225V$, $V_{BE}=-1.5V$ $T_c=125^{\circ}C$	-	-	10	mA
	Collector Cut-off Current		I_{CEO}	$V_{CE}=150V$, $I_B=0$	-	-	5	mA
*	Emitter Cut-off Current		I_{EBO}	$V_{EB}=6V$, $I_C=0$	-	-	1	mA
*	Collector-Emitter Sustaining Voltage		$V_{CER(SUS)}$ **	$I_C=0.2A$, $R_{BE}=50\Omega$	225	-	-	V
*	Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$ **	$I_C=0.2A$, $I_B=0$	200	-	-	V
*	Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=1mA$, $I_C=0$	6	-	-	V
*	DC Current Gain		h_{FE}	$V_{CE}=3V$, $I_C=10A$	10	-	50	
*	Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C=10A$, $I_B=1A$	-	-	1.5	V
		Base-Emitter	$V_{BE(sat)}$	$I_C=10A$, $I_B=1A$	-	-	2.25	V
*	Small Signal Current Gain		$\lvert h_{fe} \rvert$	$V_{CE}=10V$, $I_C=1A$ $f=1MHz$	2.5	-	-	
*	Switching Time	Rise Time	t_r	 $I_{B1}=-I_{B2}=1A$ DUTY CYCLE≤2%	-	-	2.0	μs
		Storage Time	t_{stg}		-	-	3.5	μs
		Fall Time	t_f		-	-	1.0	μs
*	Second Breakdwon Collector Current (Base Forward Bias)		$I_{s/b}$	$V_{CE}=30V$, $t=1s$ (non-repetitive)	5.8	-	-	A
*	Second Breakdown Energy (Base Reverse Bias)		$E_{s/b}$	$I_C=10A$, $V_{BE}=-4V$, $L=50\mu H$	2.5	-	-	mJ

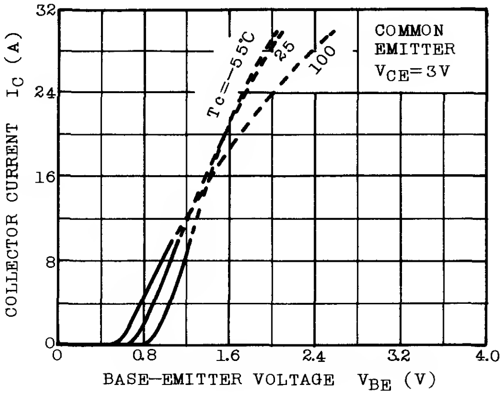
* In accordance with JEDEC registration data.

** The sustaining voltages $V_{CER(SUS)}$ and $V_{CEO(SUS)}$ MUST NOT be measured on a curve tracer.

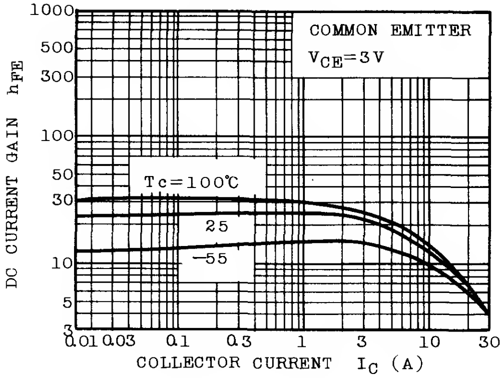
$I_C - V_{CE}$



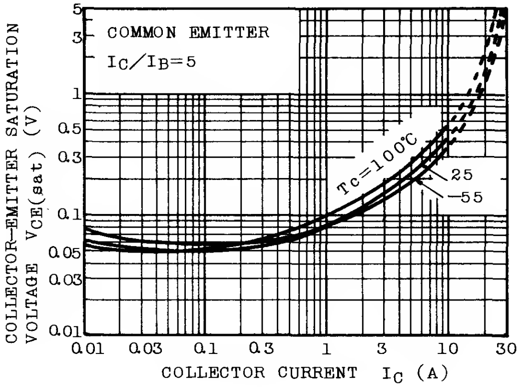
$I_C - V_{BE}$



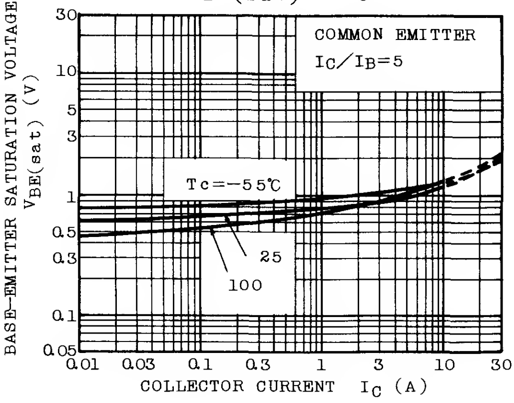
$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$P_C - T_C$