SILICON NPN TRIPLE DIFFUSED TYPE

2N3714

GENERAL PURPOSE POWER TRANSISTOR.
POWER REGULATOR, SWITCHING AND SOLENOID DRIVES APPLICATIONS.

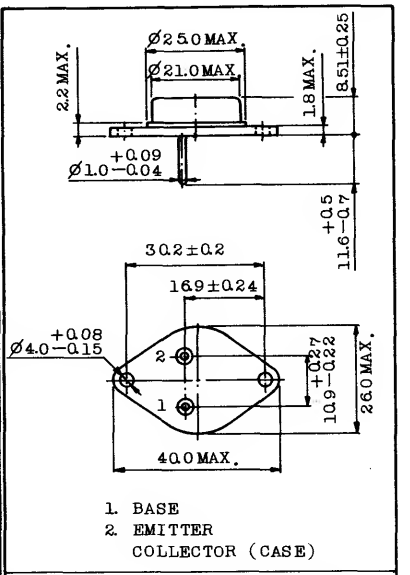
FEATURES:

. High Gain at High Current

. Low Saturation Voltage: $V_{CE(sat)}$=1.0V (Max.)
@ I_C=5A, I_B=0.5A

. 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	2-21D1A

Weight : 12.6g

MAXIMUM RATINGS (Ta=25°C)

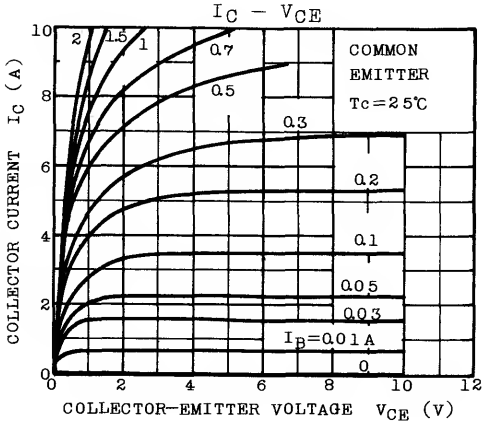
	CHARACTERISTIC	SYMBOL	RATING	UNIT
*	Collector-Base Voltage	V_{CBO}	100	V
*	Collector-Emitter Voltage	V_{CEO}	80	V
*	Emitter-Base Voltage	V_{EBO}	7	V
*	Collector Current	I_C	10	A
*	Base Current	I_B	4	A
*	Collector Power Dissipation (Tc=25°C)	P_C	150	W
*	Thermal Resistance	θ_{jc}	1.17	°C/W
*	Junction Temperature	T_j	200	°C
*	Storage Temperature Range	T_{stg}	-65 ~ 200	°C

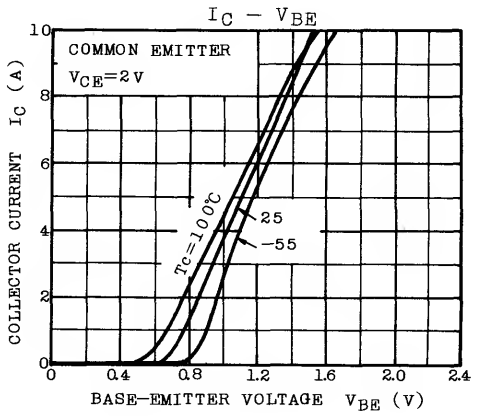
ELECTRICAL CHARACTERISTICS (Ta=25°C)

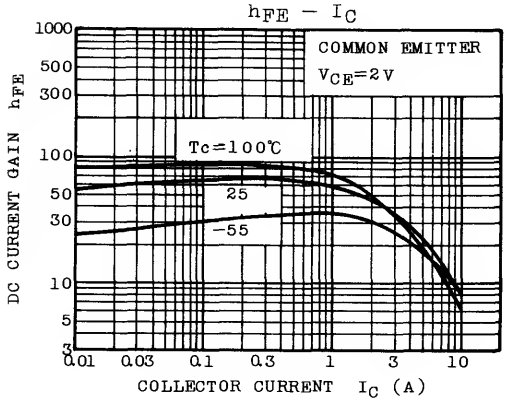
	CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
*	Collector Cut-off Current		I_{CEX}	V_{CE}=100V, V_{BE}=-1.5V	-	-	1	mA
*	Collector Cut-off Current		I_{CEX}	V_{CE}=80V, V_{BE}=-1.5V, Tc=150°C	-	-	10	mA
*	Emitter Cut-off Current		I_{EBO}	V_{EB}=7V, I_C=0	-	-	5	mA
*	Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$ **	I_C=200mA, I_B=0	80	-	-	V
*	DC Current Gain		h_{FE}	V_{CE}=2V, I_C=1A	25	-	90	
				V_{CE}=2V, I_C=3A	15	-	-	
*	Base-Emitter Voltage		V_{BE}	V_{CE}=2V, I_C=3A	-	-	1.5	V
*	Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=5A, I_B=0.5A	-	-	1.0	V
		Base-Emitter	$V_{BE(sat)}$	I_C=5A, I_B=0.5A	-	-	2.0	V
	Small Signal Forward Current Transfer Ratio		$\|h_{fe}\|$	V_{CE}=10V, I_C=0.5A, f=1MHz	4	-	-	

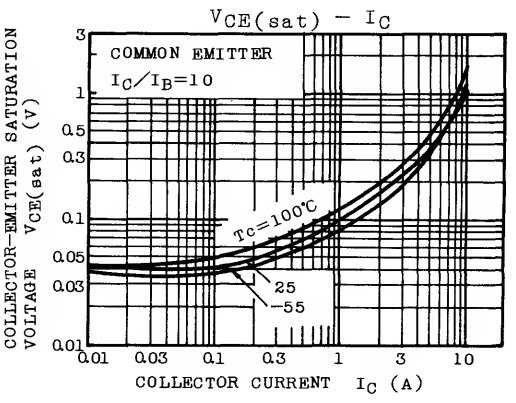
* In accordance with JEDEC registration data.

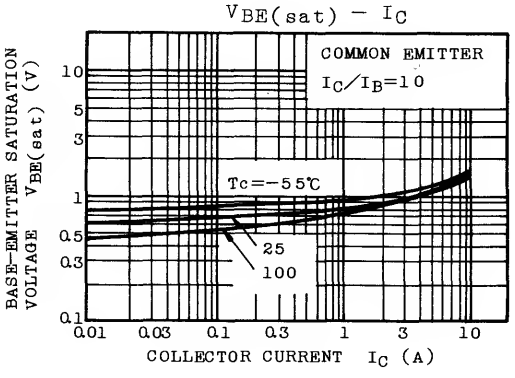
** The sustaining voltage $V_{CEO(SUS)}$ MUST NOT be measured on a curve tracer.

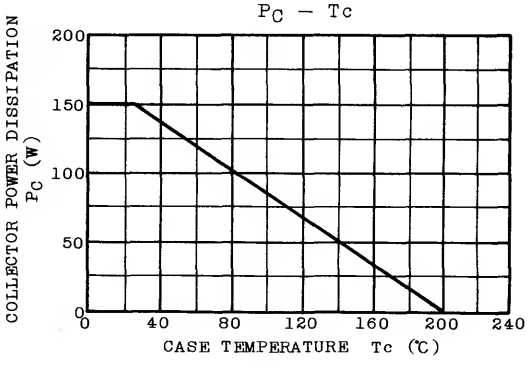

$I_C - V_{CE}$
COMMON EMITTER
Tc=25℃
I_B=0.01A
COLLECTOR CURRENT I_C (A)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)


$I_C - V_{BE}$
COMMON EMITTER
V_{CE}=2V
Tc=100℃
25
-55
COLLECTOR CURRENT I_C (A)
BASE-EMITTER VOLTAGE V_{BE} (V)


$h_{FE} - I_C$
COMMON EMITTER
V_{CE}=2V
Tc=100℃
25
-55
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (A)


$V_{CE(sat)} - I_C$
COMMON EMITTER
I_C/I_B=10
Tc=100℃
25
-55
COLLECTOR-EMITTER SATURATION VOLTAGE $V_{CE(sat)}$ (V)
COLLECTOR CURRENT I_C (A)


$V_{BE(sat)} - I_C$
COMMON EMITTER
I_C/I_B=10
Tc=-55℃
25
100
BASE-EMITTER SATURATION VOLTAGE $V_{BE(sat)}$ (V)
COLLECTOR CURRENT I_C (A)


$P_C - T_C$
COLLECTOR POWER DISSIPATION P_C (W)
CASE TEMPERATURE Tc (℃)