

HIGH-POWER NPN SILICON POWER TRANSISTORS

...designed for use in general-purpose amplifier and switching application .

FEATURES:

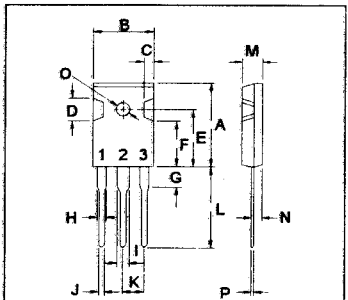
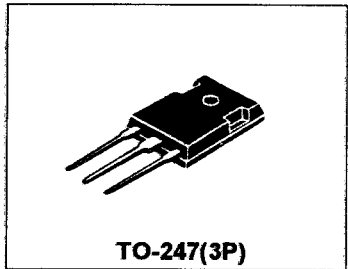
- * Recommend for 120W High Fidelity Audio Frequency Amplifier Output stage
- * Complementary to 2SA1553

NPN
2SC4029

15 AMPERE
POWER
TRANSISTOR
230 VOLTS
150 WATTS

MAXIMUM RATINGS

Characteristic	Symbol	2SC4029	Unit
Collector-Emitter Voltage	V_{CE0}	230	V
Collector-Base Voltage	V_{CBO}	230	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	15	A
- Peak	I_{CM}	20	
Base current	I_B	2.0	A
Total Power Dissipation @ $T_C = 25^\circ C$	P_D	150	W
Derate above $25^\circ C$		1.2	W/ $^\circ C$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

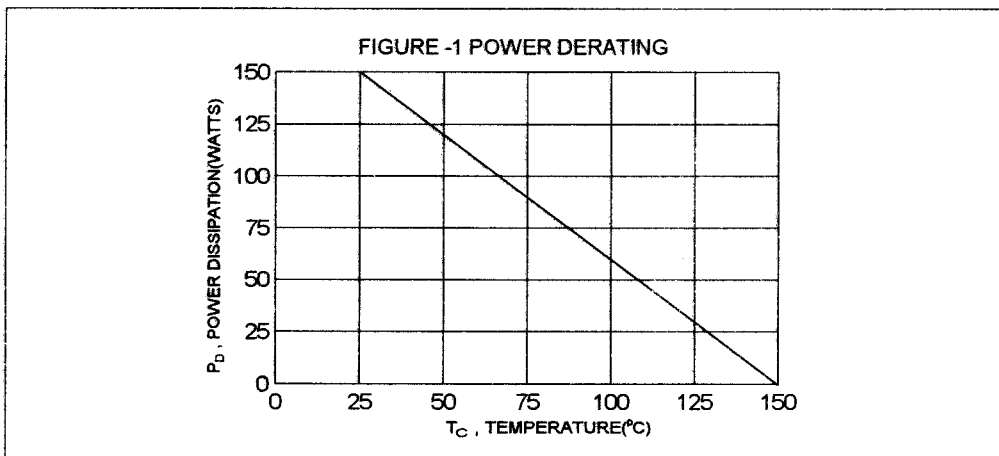


PIN 1.BASE
2.COLLECTOR
3.EMITTER

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	0.83	$^\circ C/W$

DIM	MILLIMETERS	
	MIN	MAX
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.48
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70



ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
----------------	--------	-----	-----	------

OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 50 \text{ mA}$, $I_B = 0$)	$V_{(BR)CEO}$	230		V
Collector Cutoff Current ($V_{CB} = 230 \text{ V}$, $I_E = 0$)	I_{CBO}		50	μA
Emitter Cutoff Current ($V_{EB} = 5.0 \text{ V}$, $I_C = 0$)	I_{EBO}		50	μA

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 1.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$) * ($I_C = 7.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$)	$h_{FE(2)}$ h_{FE}	55 35	160	
Collector-Emitter Saturation Voltage ($I_C = 8.0 \text{ A}$, $I_B = 800 \text{ mA}$)	$V_{CE(sat)}$		3.0	V
Base-Emitter On Voltage ($I_C = 7.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$)	$V_{BE(on)}$		1.5	V

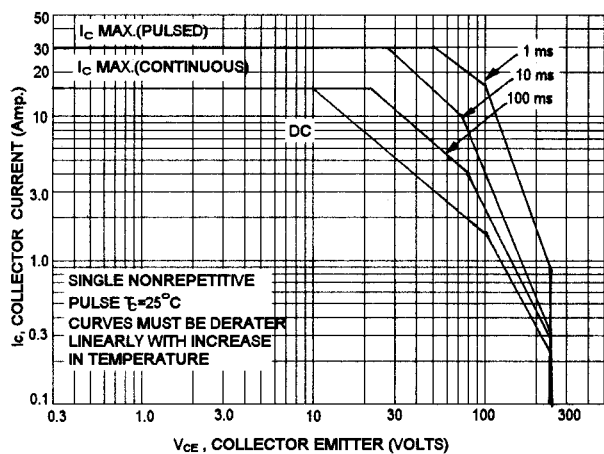
DYNAMIC CHARACTERISTICS

Current-Gain Bandwidth Product ($I_C = 1.0 \text{ A}$, $V_{CE} = 5.0 \text{ V}$, $f = 1.0 \text{ MHz}$)	f_T	10		MHz
--	-------	----	--	-----

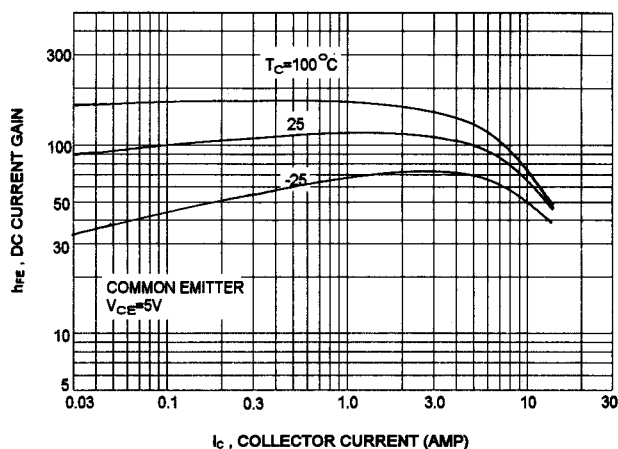
(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$ * $h_{FE(2)}$ Classification :

55	R	110	80	O	160
----	---	-----	----	---	-----

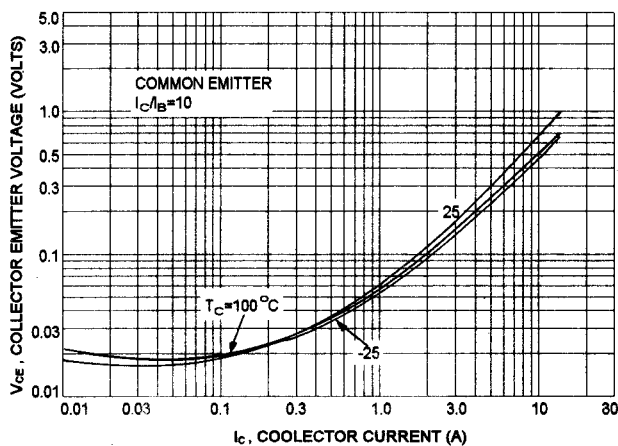
ACTIVE REGION SAFE OPERATING AREA



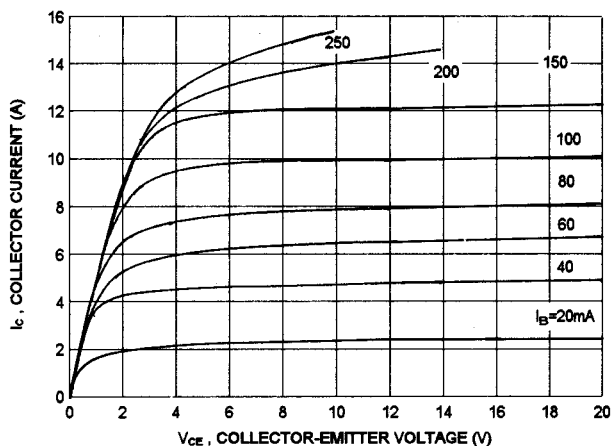
DC CURRENT GAIN



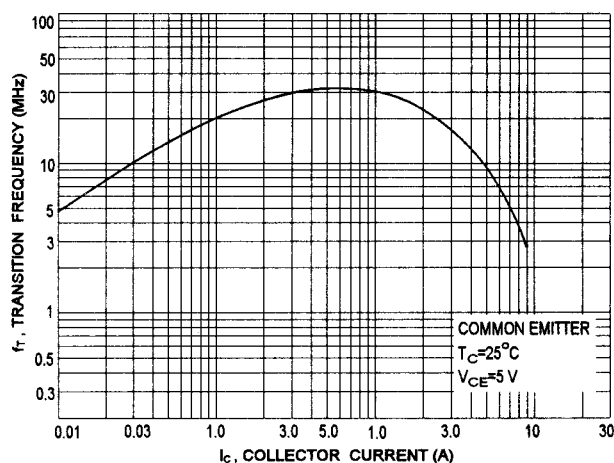
$V_{CE}(\text{sat}) - I_C$



$I_C - V_{CE}$



$f_T - I_C$



$I_C - V_{BE}$

