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COMPLEMENTARY SILICON PLASTIC POWER TRANSISTORS

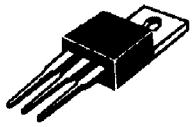
... designed for use in general-purpose amplifier and switching applications.

NPN	PNP
2N6486	2N6489
2N6487	2N6490
2N6488	2N6491

15 AMPERE
COMPLEMENTARY SILICON
POWER TRANSISTORS
40-80 Volts
75 Watts

FEATURES:

* Collector-Emitter Sustaining Voltage-
  $V_{CEO(SUS)}$ = 40 V (Min) -2N6486, 2N6489
  = 60 V (Min) -2N6487, 2N6490
  = 80 V (Min) -2N6488, 2N6491
* DC Current Gain Specified to 15 Ampers
  hFE = 20-150 @ I_C =5.0 A
  = 5.0(Min) @ I_C=15A



TO-220

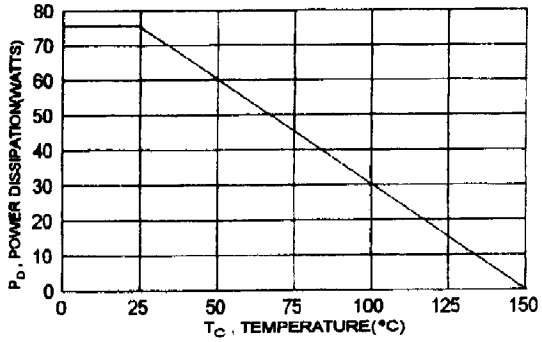
MAXIMUM RATINGS

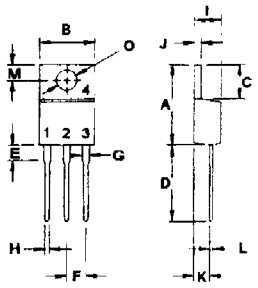
Characteristic	Symbol	2N6486 2N6489	2N6487 2N6490	2N6488 2N6491	Unit
Collector-Emitter Voltage	V_{CEO}	40	60	80	V
Collector-Base Voltage	V_{CBO}	50	70	90	V
Emitter-Base Voltage	V_{EBO}	5.0			V
Collector Current - Continuous	I_C	15			A
Base Current	I_B	5.0			A
Total Power Dissipation@T_C = 25°C Derate above 25°C	P_D	75 0.6			W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.67	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector - Emitter Sustaining Voltage (1) (I_C = 100 mA, I_B = 0)	2N6486, 2N6489 2N6487, 2N6490 2N6488, 2N6491	$V_{CEO(SUS)}$	40 60 80		V
Collector Cutoff Current (V_{CE} = 20 V, I_B = 0) (V_{CE} = 30 V, I_B = 0) (V_{CE} = 40 V, I_B = 0)	2N6486, 2N6489 2N6487, 2N6490 2N6488, 2N6491	I_{CEO}		1.0 1.0 1.0	mA
Collector Cutoff Current (V_{CE} = 45 V, $V_{BE(off)}$ = 1.5 V) (V_{CE} = 65 V, $V_{BE(off)}$ = 1.5 V) (V_{CE} = 85 V, $V_{BE(off)}$ = 1.5 V) (V_{CE} = 40 V, $V_{BE(off)}$ = 1.5 V, T_C = 125°C) (V_{CE} = 60 V, $V_{BE(off)}$ = 1.5 V, T_C = 125°C) (V_{CE} = 80 V, $V_{BE(off)}$ = 1.5 V, T_C = 125°C)	2N6486, 2N6489 2N6487, 2N6490 2N6488, 2N6491 2N6486, 2N6489 2N6487, 2N6490 2N6488, 2N6491	I_{CEX}		0.5 0.5 0.5 5.0 5.0 5.0	mA
Emitter Cutoff Current (V_{EB} = 5.0 V , I_C = 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
DC Current Gain (I_C = 5.0 A, V_{CE} = 4.0 V) (I_C = 15 A, V_{CE} = 4.0 V)		hFE	20 5.0	150	
Collector-Emitter Saturation Voltage (I_C = 5.0 A, I_B = 0.5 A) (I_C = 15 A, I_B = 5.0 A)		$V_{CE(sat)}$		1.3 3.5	V
Base-Emitter On Voltage (I_C = 5.0 A, V_{CE} = 4.0 V) (I_C = 15 A, V_{CE} = 4.0 V)		$V_{BE(on)}$		1.3 3.5	V
DYNAMIC CHARACTERISTICS					
Current-Gain-Bandwidth Product (2) (I_C = 1.0 A, V_{CE} = 4.0 V, f = 1.0 MHz)		f_T	5.0		MHz
Small-Signal Current Gain (I_C = 1.0 A, V_{CE} =4.0 V, f = 1.0 KHz)		h_{fe}	15		

(1) Pulse Test: Pulse width = 300 μs , Duty Cycle ≦ 2.0%
(2) $f_T = |h_{fe}| \cdot f_{test}$