



Complementary Silicon Power Transistors

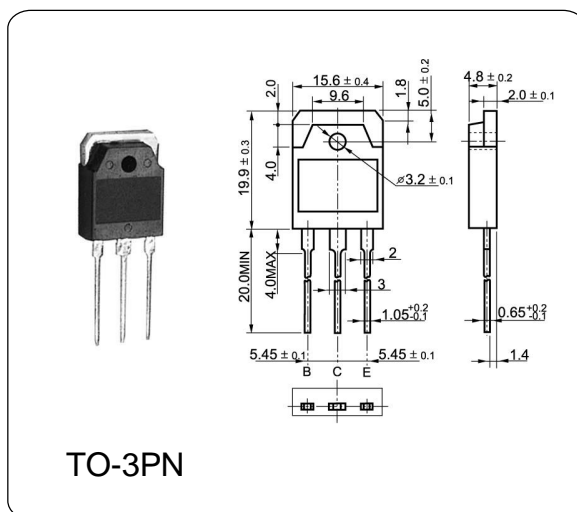
2SD1047 / 2SB817

DESCRIPTION

It is intended for use in power amplifier and switching applications.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	140	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	12	A
Base Current	I_B	1.2	A
Total Dissipation at	P_{tot}	100	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CEO}	$V_{CB}=140V, I_E=0$	—	—	10	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=6V, I_C=0$	—	—	10	μA
Collector-Emitter Sustaining Voltage	V_{CEO}	$I_C=30mA, I_B=0$	140	—	—	V
DC Current Gain	h_{FE1}	$V_{CE}=5.0V, I_C=1.0A$	60	—	200	
	h_{FE2}	$V_{CE}=5.0V, I_C=6.0A$	20	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5.0A, I_B=0.5A$	—	—	2.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5.0V, I_C=1.0A$	—	—	1.5	V
Current Gain Bandwidth Product	f_T	$V_{CE}=5.0V, I_C=1.0A$	—	15	—	MHz
Collector Output Capacitance	C_{OB}	$V_{CB}=-10V, I_E=0, f=1MHz$	—	300	—	pF

Note : hfe1 Classification D: 60~120, E: 100~200