Data Sheet

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Manufacturers of World Class Discrete Semiconductors

2N6053 2N6054 PNP
2N6055 2N6056 NPN

COMPLEMENTARY SILICON DARLINGTON POWER TRANSISTOR

JEDEC TO-3 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6053, 6055 Series types are Complementary Silicon Darlington Power Transistors designed for amplifier and switching applications.

MAXIMUM RATINGS (T_C=25°C)

	SYMBOL	2N6053 2N6055	2N6054 2N6056	UNIT
Collector-Base Voltage	V_{CBO}	60	80	V
Collector-Emitter Voltage	V_{CEO}	60	80	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	V
Collector Current	I_C	8.0	8.0	A
Collector Current (Peak)	I_{CM}	16	16	A
Base Current	I_B	120	120	mA
Power Dissipation	P_D	100	100	W
Operating and Storage Junc. Temp.	T_J, T_{stg}	-65 TO +200		°C
Thermal Resistance	θ_{JC}	1.75		°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CEV}	V_{CE}=Rated V_{CBO}, $V_{EB(OFF)}$=1.5V		0.5	mA
I_{CEV}	V_{CE}=Rated V_{CBO}, $V_{EB(OFF)}$=1.5V, T_C=150°C		5.0	mA
I_{CEO}	V_{CE}=½ Rated V_{CBO}		0.5	mA
I_{EBO}	V_{BE}=5.0V		2.0	mA
BV_{CEO}	I_C=100mA (2N6053, 2N6055)	60		V
BV_{CEO}	I_C=100mA (2N6054, 2N6056)	80		V
$V_{CE(SAT)}$	I_C=4.0A, I_B=16mA		2.0	V
$V_{CE(SAT)}$	I_C=8.0A, I_B=80mA		3.0	V
$V_{BE(SAT)}$	I_C=8.0A, I_B=80mA		4.0	V
$V_{BE(ON)}$	V_{CE}=3.0V, I_C=4.0A		2.8	V
h_{FE}	V_{CE}=3.0V, I_C=4.0A	750	18,000	
h_{FE}	V_{CE}=3.0V, I_C=8.0A	100	-	
h_{fe}	V_{CE}=3.0V, I_C=3.0A, f=1.0kHz	300		
f_T	V_{CE}=3.0V, I_C=3.0A, f=1.0MHz	4.0		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=0.1MHz (2N6053, 2N6054)		300	pF
C_{ob}	V_{CB}=10V, I_E=0, f=0.1MHz (2N6055, 2N6056)		200	pF