MPS-A63, MPS-A64

Silicon Darlington Transistors

TO-92

The GE/RCA MPS-A63 and A64 are planar epitaxial passivated PNP silicon Darlington transistors designed for preamplifier input applications where high impedance is a requirement. These types are supplied in JEDEC TO-92 package.

MAXIMUM RATINGS, *Absolute-Maximum Values:*

COLLECTOR TO EMITTER VOLTAGE (V_{CEO})	−30 V
COLLECTOR TO BASE VOLTAGE (V_{CBO})	−30 V
EMITTER TO BASE VOLTAGE (V_{EBO})	−10 V
CONTINUOUS COLLECTOR CURRENT (I_C)	−300 mA
TOTAL POWER DISSIPATION ($T_A \leq 25°C$) (P_T)	625 mW
TOTAL POWER DISSIPATION ($T_C \leq 25°C$) (P_T)	1500 mW
DERATE FACTOR ($T_A \geq 25°C$) (P_T)	5 mW/°C
DERATE FACTOR ($T_C \geq 25°C$) (P_T)	12 mW/°C
OPERATING TEMPERATURE (T_J)	−65° to +150°C
STORAGE TEMPERATURE (T_{STG})	−55° to +150°C
LEAD TEMPERATURE, 1/16" ± 1/32" (1.58mm ± 0.8mm) from case for 10s max. (T_L)	+260°C

File Number **2076**

MPS-A63, MPS-A64

T-29-27

ELECTRICAL CHARACTERISTICS, At Ambient Temperature (T_A) = 25°C Unless Otherwise Specified

CHARACTERISTICS	SYMBOL	LIMITS			UNITS
		MIN.	TYP.	MAX.	
Collector-Emitter Breakdown Voltage (I_C = 100μA, I_B = 0)	BV_{CES}	30	–	–	V
Collector Cutoff Current (V_{CB} = 30V, I_E = 0)	I_{CBO}	–	–	– 100	nA
Emitter Cutoff Current (V_{BE} = 10V, I_C = 0)	I_{EBO}	–	–	– 100	
DC Forward Current Transfer Ratio (I_C = 10 mA, V_{CE} = 5V)* MPS-A63	h_{FE}	–	5,000	–	–
MPS-A64		–	10,000	–	
DC Forward Current Transfer Ratio (I_C = 100 mA, V_{CE} = 5V)* MPS-A63		–	10,000	–	
MPS-A64		–	20,000	–	
Small Signal Current Gain (I_C = 10 mA, V_{CE} = 5 V, f = 1 kHz)	h_{fe}	–	35	–	–
Collector-Emitter Saturation Voltage (I_C = 100 mA, I_B = 0.1 mA)*	$V_{CE(SAT)}$	–	– 0.8	– 1.5	V
Base-Emitter On-Voltage (I_C = 100 mA, V_{CE} = 10 V)	$V_{BE(ON)}$	–	– 1.25	– 2	
Gain–Bandwidth Product (I_C = 100 mA, V_{CE} = 5V, f = 100 MHz)	f_T	125	–	–	MHz
Output Capacitance (V_{CB} = 10 V, I_E = 0, f = 100kHz)	C_{eb}	–	4	–	pF
Noise Figure (I_C = 1 mA, V_{CE} = 5 V, I_S = 100 kΩ, f = 1 kHz)	NF		2	–	dB

*Pulse conditions: ≤ 300μs pulse width, ≤ 2 % duty cycle

TERMINAL CONNECTIONS

Lead 1 - Emitter
Lead 2 - Base
Lead 3 - Collector