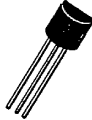


Signal Transistors

T-29-27

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_{CE0})	.....	- 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 ($T_A \leq 25^\circ\text{C}$) (P_T)	.....	625 mW
TOTAL POWER DISSIPATION ($T_C \leq 25^\circ\text{C}$) (P_T)	.....	1500 mW
DERATE FACTOR ($T_A \geq 25^\circ\text{C}$) (P_T)	.....	5 mW/ $^\circ\text{C}$
DERATE FACTOR ($T_C \geq 25^\circ\text{C}$) (P_T)	.....	12 mW/ $^\circ\text{C}$
OPERATING TEMPERATURE (T_J)	.....	- 65° to + 150°C
STORAGE TEMPERATURE (T_{STG})	- 55° to + 150°C
LEAD TEMPERATURE, $1/16" \pm 1/32"$ (1.58mm \pm 0.8mm) from case for 10s max. (T_L)	+ 260°C

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Signal Transistors

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 ($I_C = 100\mu A, I_B = 0$)	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 ($I_C = 10\text{ mA}, V_{CE} = 5V$)*	h_{FE}	—	5,000	—	—
MPS-A63		—	10,000	—	
DC Forward Current Transfer Ratio ($I_C = 100\text{ mA}, V_{CE} = 5V$)*		—	10,000	—	
MPS-A64		—	20,000	—	
Small Signal Current Gain ($I_C = 10\text{ mA}, V_{CE} = 5V, f = 1\text{ kHz}$)	h_{fe}	—	35	—	—
Collector-Emitter Saturation Voltage ($I_C = 100\text{ mA}, I_B = 0.1\text{ mA}$)*	$V_{CE(SAT)}$	—	-0.8	-1.5	V
Base-Emitter On-Voltage ($I_C = 100\text{ mA}, V_{CE} = 10V$)	$V_{BE(ON)}$	—	-1.25	-2	
Gain-Bandwidth Product ($I_C = 100\text{ mA}, V_{CE} = 5V, f = 100\text{ MHz}$)	f_T	125	—	—	MHz
Output Capacitance ($V_{CB} = 10V, I_E = 0, f = 100\text{ kHz}$)	C_{ob}	—	4	—	pF
Noise Figure ($I_C = 1\text{ mA}, V_{CE} = 5V, I_S = 100\text{ k}\Omega, f = 1\text{ kHz}$)	NF	—	2	—	dB

*Pulse conditions: $\leq 300\mu s$ pulse width, $\leq 2\%$ duty cycle**TERMINAL CONNECTIONS**

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