

SEMICONDUCTOR TECHNICAL DATA

KTD1937

EPITAXIAL PLANAR NPN TRANSISTOR

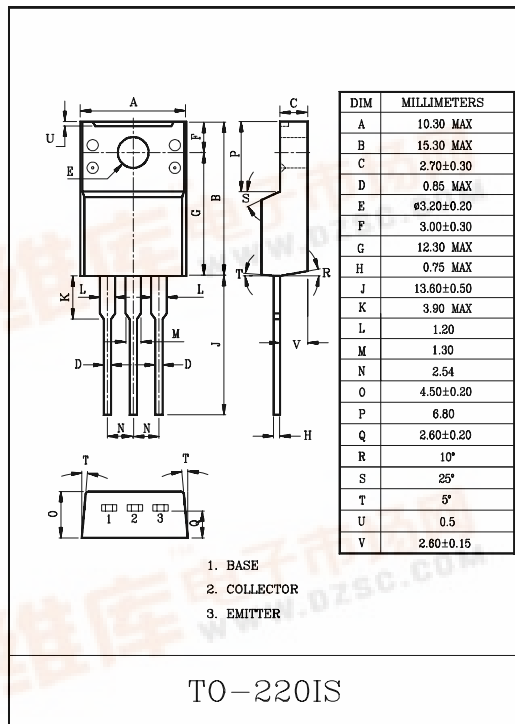
HIGH CURRENT SWITCHING APPLICATION.
LAMP SOLENOID DRIVER.

FEATURES

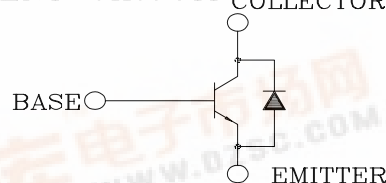
- High h_{FE} : 500~1500($I_C=1A$).
- Low Saturation : $V_{CE(sat)}=0.35V(Max.)$ ($I_C=5A$).

MAXIMUM RATINGS ($T_a=25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	100	V
Collector-Emitter Voltage		V_{CEO}	80	V
Emitter-Base Voltage		V_{EB0}	7	V
Collector Current	DC	I_C	10	A
	Pulse	I_{CP}	15	
Base Current		I_B	2	A
Collector Power Dissipation	$T_a=25^\circ C$	P_C	2	W
	$T_c=25^\circ C$		40	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS ($T_c=25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=80V, I_E=0$	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7V, I_C=0$	-	-	10	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=50mA, I_B=0$	80	-	-	V
DC Current Gain		$h_{FE(1)}$	$V_{CE}=1V, I_C=1A$	500	-	1500	
		$h_{FE(2)}$	$V_{CE}=1V, I_C=5A$	150	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=5A, I_B=0.05A$	-	-	0.35	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=5A, I_B=0.05A$	-	-	1.2	V
Collector-Emitter Forward Voltage		V_{ECF}	$I_E=5A, I_B=0$	-	-	2.7	V
Transition Frequency		f_T	$V_{CE}=5V, I_C=1A$	-	70	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	160	-	pF
Switching Time	Turn-on Time	t_{on}	<p>$I_{B1} = -I_{B2} = 0.05A$ DUTY CYCLE < 1%</p>	-	0.6	-	μS
	Storage Time	t_{stg}		-	6.0	-	
	Fall Time	t_f		-	1.0	-	



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