Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

High Voltage Fast-Switching NPN Power Transistor

FEATURES

- High Voltage Capability
- Fast Switching Speed
- Pb-free plating
- RoHS compliant
- Halogen-free mold compound

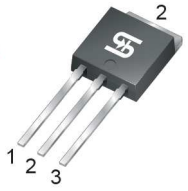
APPLICATION

- Electronic Ballast
- Switch mode power supply

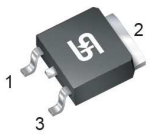
KEY PERFORMANCE PARAMETERS			
PARAMETER		**VALUE**	**UNIT**
BV_{CEO}		450	V
BV_{CBO}		1050	V
I_C		5	A
$V_{CE(SAT)}$	I_C=1A, I_B=0.2A	0.5	V

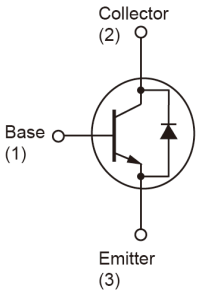
Pb-Free RoHS COMPLIANT HALOGEN FREE

TO-251 (IPAK)



TO-252 (DPAK)





Notes: Moisture sensitivity level: level 3. Per J-STD-020

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Collector-Base Voltage	V_{CBO}	1050	V
Collector-Emitter Voltage @ V_{BE}=0V	V_{CES}	450	V
Emitter-Base Voltage	V_{EBO}	15	V
Collector Current	I_C	5	A
Collector Peak Current (tp <5ms)	I_{CM}	8	A
Base Current	I_B	2	A
Base Peak Current (tp <5ms)	I_{BM}	4	A
Power Total Dissipation @ T_C=25ºC	P_{DTOT}	45	W
Maximum Operating Junction Temperature	T_J	+150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Junction to Case Thermal Resistance	$R_{\Theta JC}$	2.78	°C/W
Junction to Ambient Thermal Resistance	$R_{\Theta JA}$	100	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)						
PARAMETER	**CONDITIONS**	**SYMBOL**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-Base Voltage	I_C =0.5mA	BV_{CBO}	1050	--	--	V
Collector-Emitter Breakdown Voltage	I_C =5mA	BV_{CEO}	450	--	--	V
Emitter-Base Breakdown Voltage	I_E =1mA	BV_{EBO}	15	--	--	V
Collector Cutoff Current	V_{CE} =400V, I_B=0	I_{CEO}	--	10	250	μA
Collector Cutoff Current	V_{CB} =950V, I_E =0	I_{CBO}	--	--	10	μA
Collector-Emitter Saturation Voltage	I_C=1A, I_B =0.2A	$V_{CE(SAT)}1$	---	--	0.5	V
Collector-Emitter Saturation Voltage	I_C=3.5A, I_B =1A	$V_{CE(SAT)}2$	---	1.5	2.0	V
Base-Emitter Saturation Voltage	I_C=3.5A, I_B =1A	$V_{BE(SAT)}1$	--	1.1	1.5	V
DC Current Gain	V_{CE} =5V, I_C =0.1A	$h_{FE}1$	50	70	100	
	V_{CE} =3V, I_C =0.8A	$h_{FE}2$	25	30	50	
Diode Forward Voltage	I_C=2A	V_F	--	--	1.5	V
Rise Time (Note 2)	V_{CC} =5V, I_C =0.5A	t_r	--	--	1	μs
Storage Time (Note 2)		t_{STG}	4.5	5	5.5	μs
Fall Time (Note 2)		t_f	--	--	1.2	μs
Repetitive Avalanche Energy	L=2mH	E_{AR}	6	--	--	mJ

Notes:

1. Pulse test: ≤380μs, duty cycle ≤ 2%
2. For DESIGN AID ONLY, not subject to production testing.

ORDERING INFORMATION

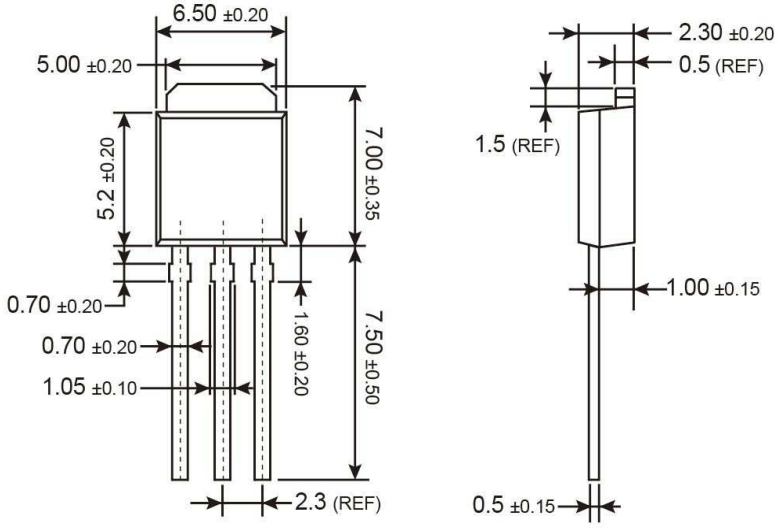
PART NO.	PACKAGE	PACKING
TSC5804DCH C5G	TO-251	75pcs / Tube
TSC5804DCP ROG	TO-252	2,500pcs / 13” Reel

Note:

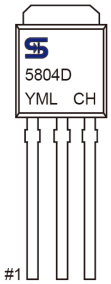
1. Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
2. Halogen-free according to IEC 61249-2-21 definition

PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

TO-251 (IPAK)



Marking Diagram



Y = Year Code

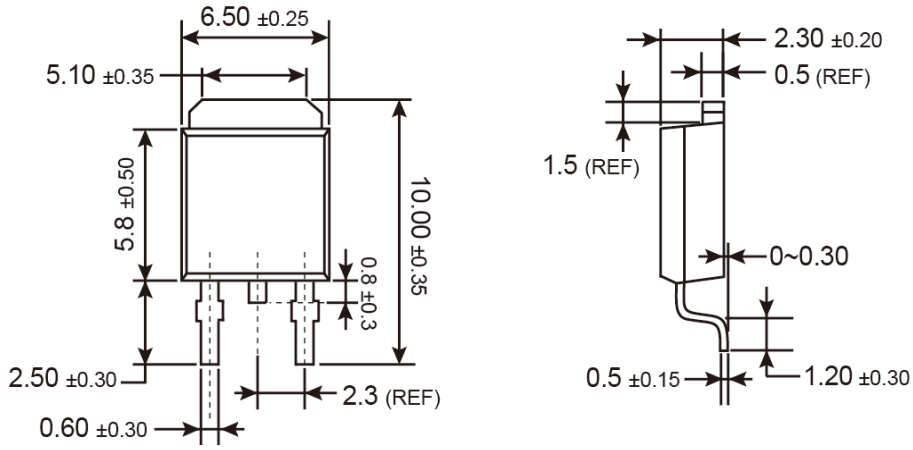
M = Month Code for Halogen Free Product

O	=Jan	**P**	=Feb	**Q**	=Mar	**R**	=Apr
S	=May	**T**	=Jun	**U**	=Jul	**V**	=Aug
W	=Sep	**X**	=Oct	**Y**	=Nov	**Z**	=Dec

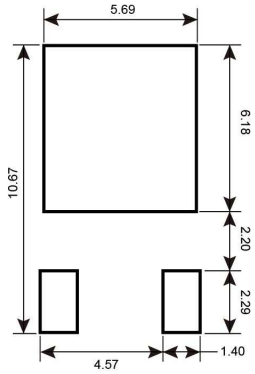
L = Lot Code (1~9, A~Z)

PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

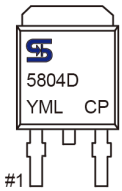
TO-252 (DPAK)



SUGGESTED PAD LAYOUT



MARKING DIAGRAM



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