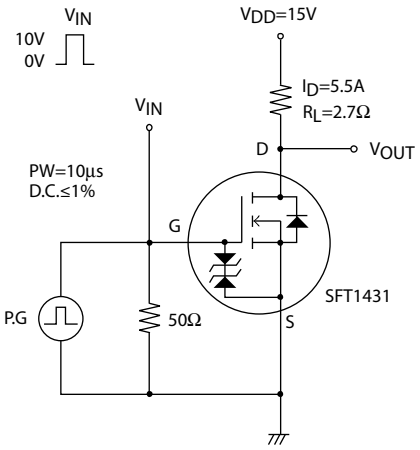
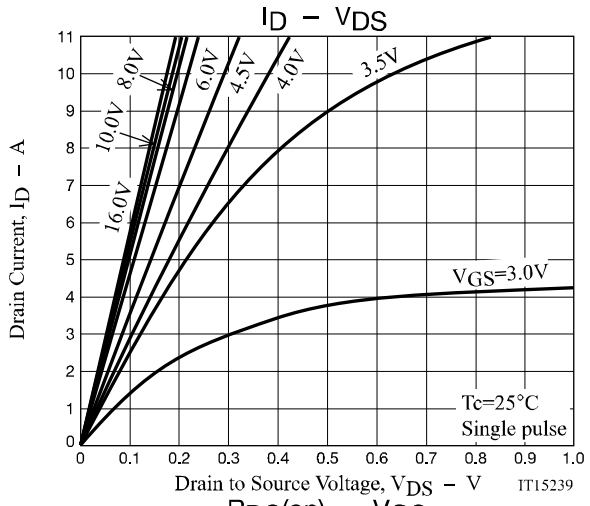
Electrical Characteristics at Ta = 25°C

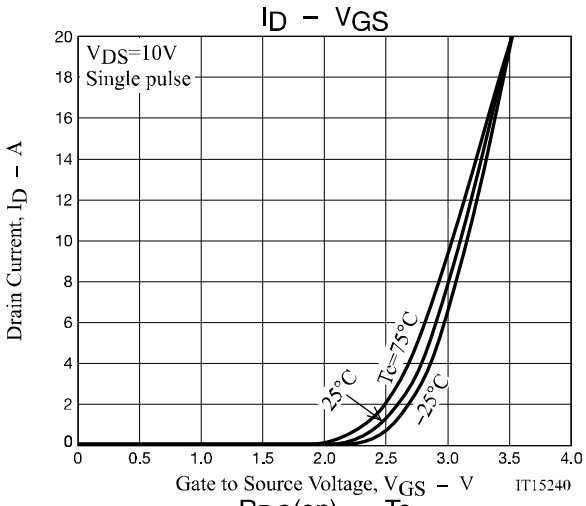
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0V	35			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=35V, V_{GS}=0V			1	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0V			±10	μA
Gate Threshold Voltage	$V_{GS}(th)$	V_{DS}=10V, I_D=1mA	1.2		2.6	V
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=5.5A		5		S
Static Drain to Source On-State Resistance	$R_{DS}(on)1$	I_D=5.5A, V_{GS}=10V		19	25	mΩ
	$R_{DS}(on)2$	I_D=3A, V_{GS}=4.5V		28	39.5	mΩ
	$R_{DS}(on)3$	I_D=3A, V_{GS}=4V		35	49	mΩ
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		960		pF
Output Capacitance	Coss			130		pF
Reverse Transfer Capacitance	Crss			84		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		12		ns
Rise Time	t_r			40		ns
Turn-OFF Delay Time	$t_d(off)$			60		ns
Fall Time	t_f			36		ns
Total Gate Charge	Qg	V_{DS}=20V, V_{GS}=10V, I_D=11A		17.3		nC
Gate to Source Charge	Qgs			3.2		nC
Gate to Drain “Miller” Charge	Qgd			3.6		nC
Forward Diode Voltage	V_{SD}	I_S=11A, V_{GS}=0V		0.88	1.2	V

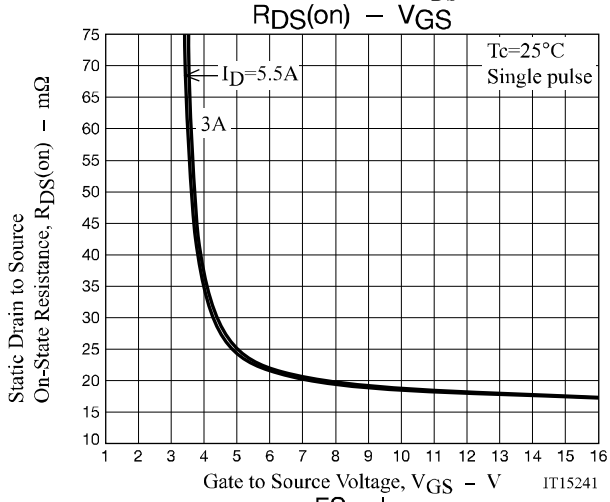
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

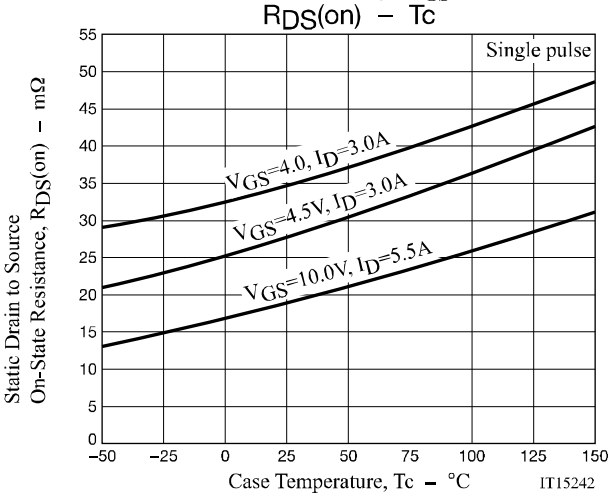
Switching Time Test Circuit

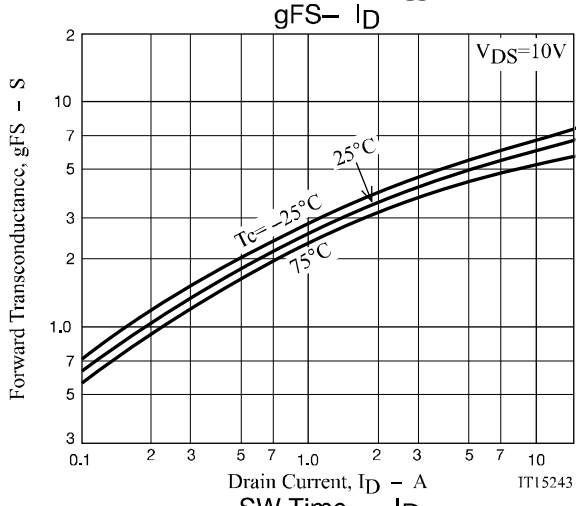


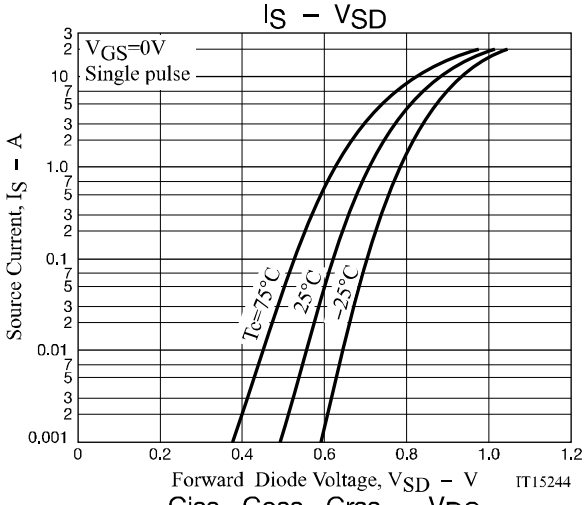


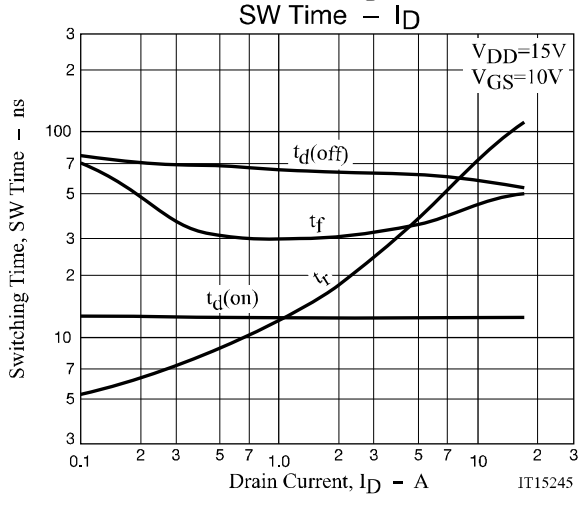


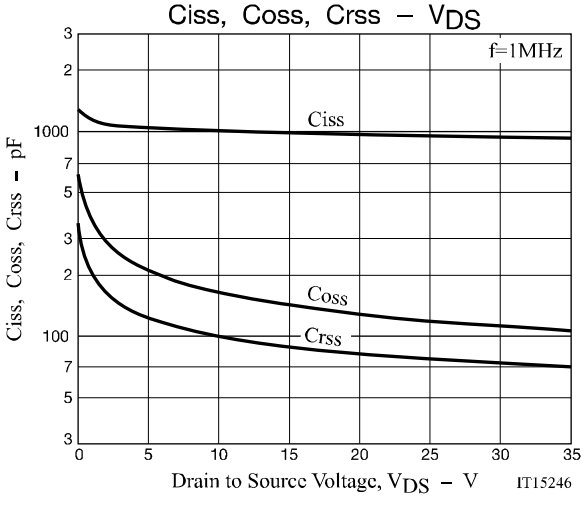


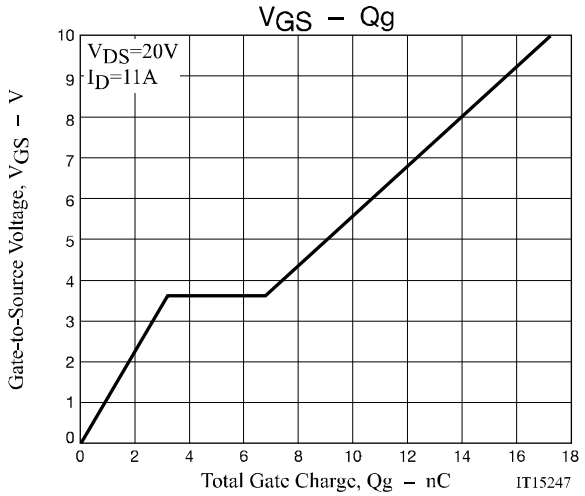


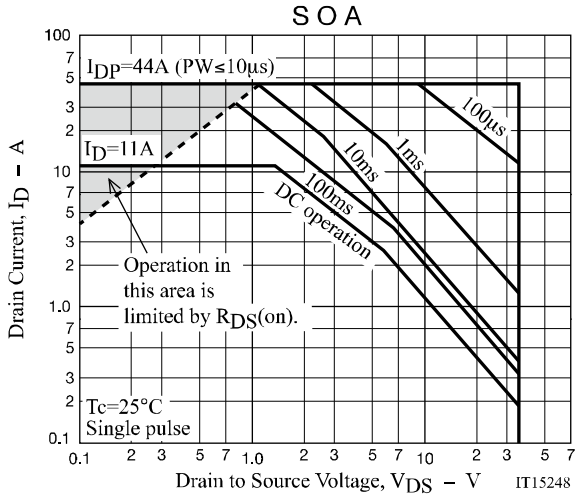


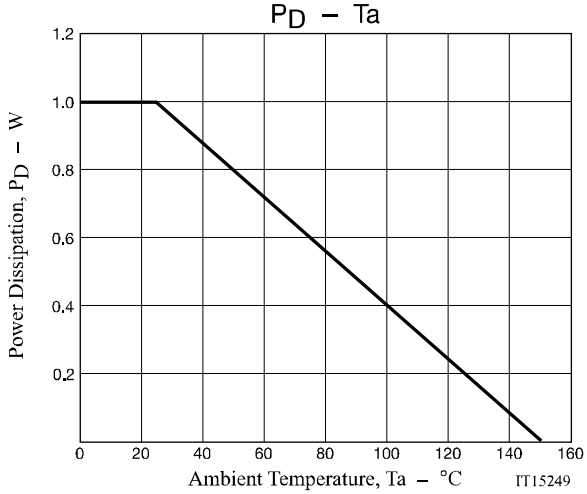


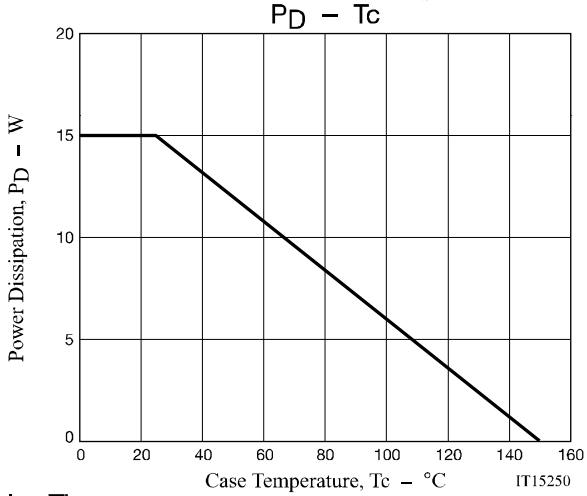


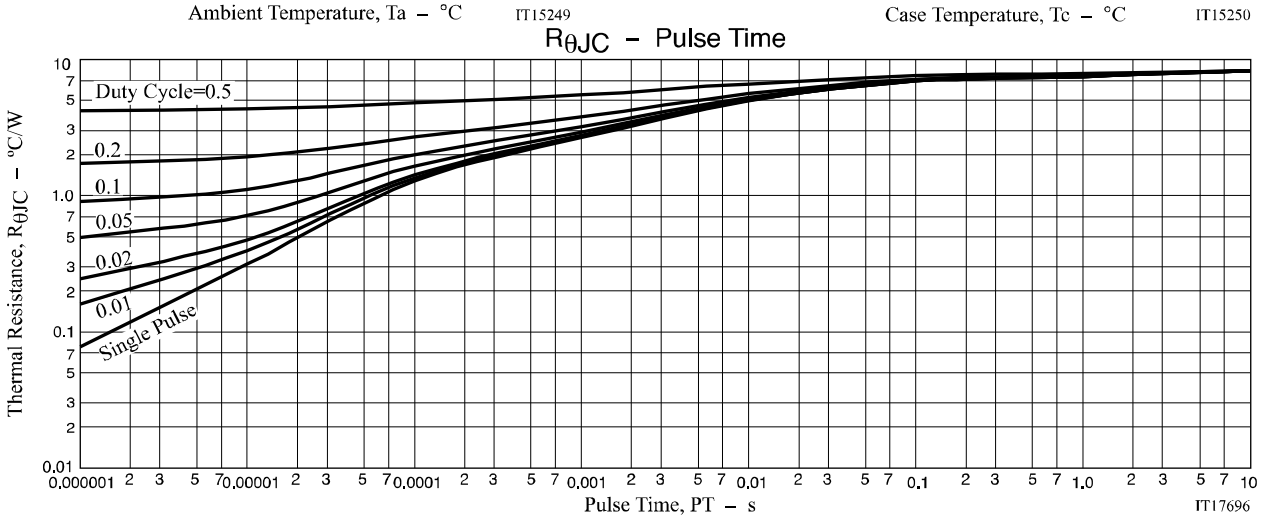










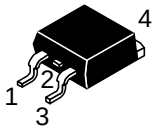


Package Dimensions

SFT1431-TL-E/ SFT1431-TL-W

DPAK/TP-FA

unit : mm

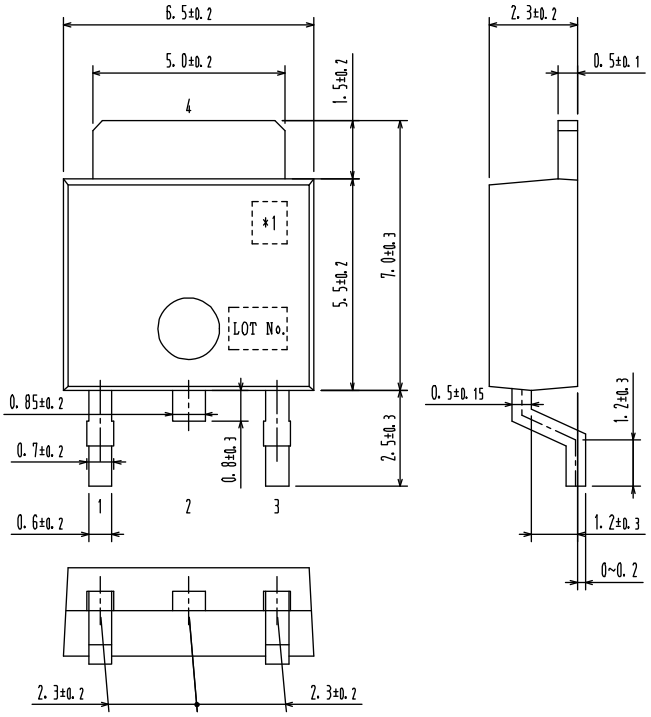


1:Gate

2:Drain

3:Source

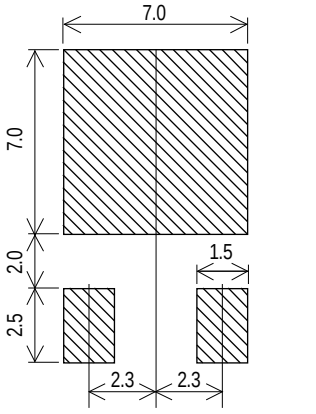
4:Drain



Pin 2 is idle pin with electrical designation only carried.

*1:Lot indication

Recommended Soldering Footprint

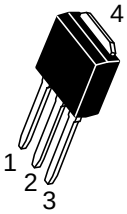


Package Dimensions

SFT1431-E/ SFT1431-W

IPAK/TP

Unit : mm

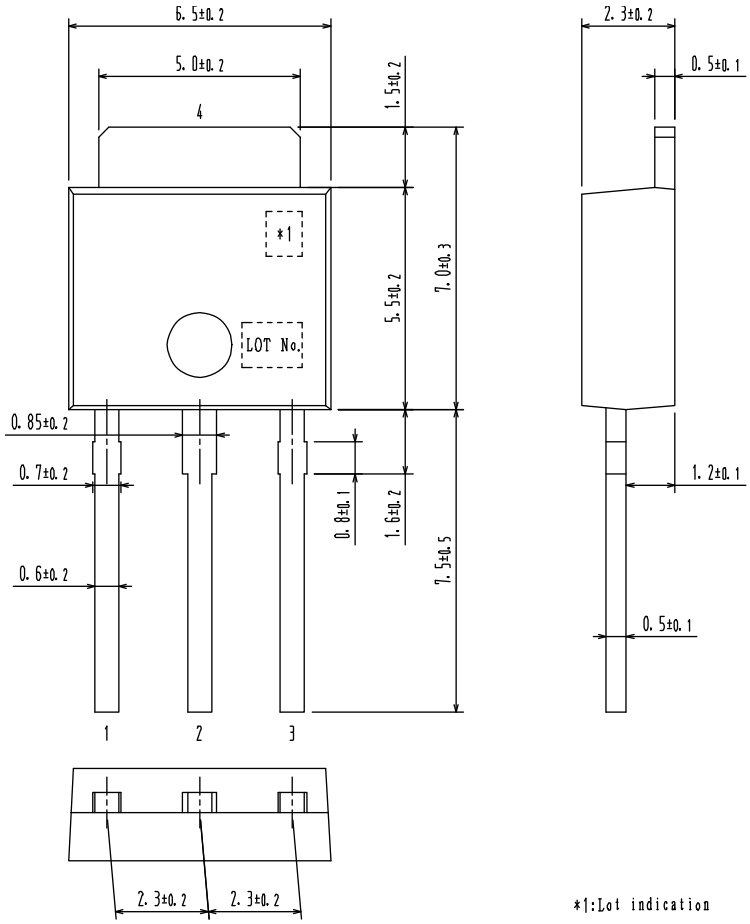


1:Gate

2:Drain

3:Source

4:Drain



Ordering & Package Information

Device	Package	Shipping	Note
SFT1431-E	IPAK(TP) SC-64,TO-251	500pcs. / bag	Pb-Free
SFT1431-W			Pb-Free and Halogen Free
SFT1431-TL-E	DPAK(TP-FA) SC-63,TO-252	700pcs. / reel	Pb-Free
SFT1431-TL-W			Pb-Free and Halogen Free

Note on usage : Since the SFT1431 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.