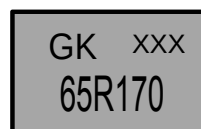


Features

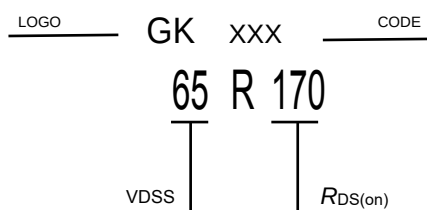
Ultra low $R_{DS(on)}$
Ultra low gate charge (typ. $Q_g=38.4nC$)
100% UIS tested
RoHS compliant

V_{DSS} 650 V
 I_D 21 A
 $R_{DS(ON)}$ 0.17 Ω

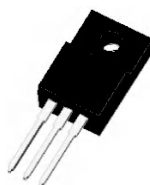


Applications

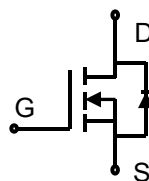
Power factor correction (PFC).
Switched mode power supplies (SMPS).
Uninterruptible power supply (UPS).



ITO-220AB



Equivalent Circuit



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (@ $T = 25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	650	V
Continuous drain current ¹⁾ ($T_C = 25^{\circ}C$) ($T_C = 100^{\circ}C$)	I_D	21 13.2	A A
Pulsed drain current ²⁾	I_{DM}	63	A
Gate-Source voltage	V_{GSS}	± 30	V
Avalanche energy, single pulse ³⁾	E_{AS}	600	mJ
Power Dissipation	P_D	34	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}C$
Continuous diode forward current	I_S	21	A
Diode pulse current	$I_{S,pulse}$	63	A

RATING AND CHARACTERISTIC CURVES

Fig 1: Output Characteristics

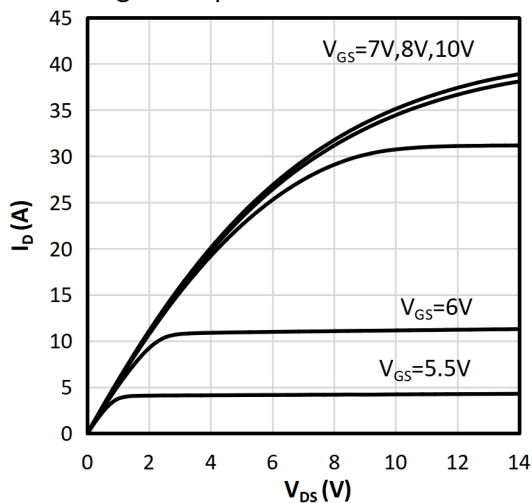


Fig 2: Transfer Characteristics

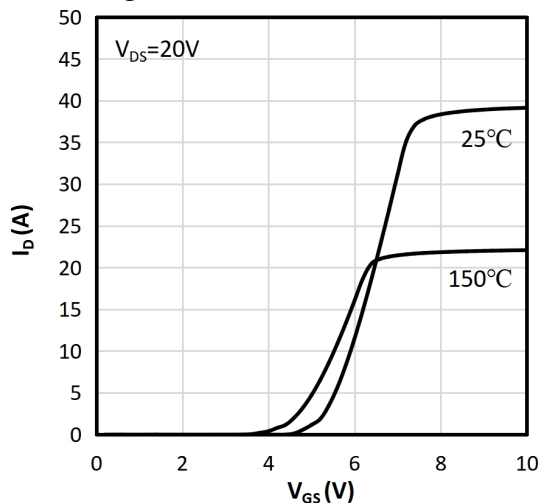


Fig 3: $R_{DS(on)}$ vs Drain Current

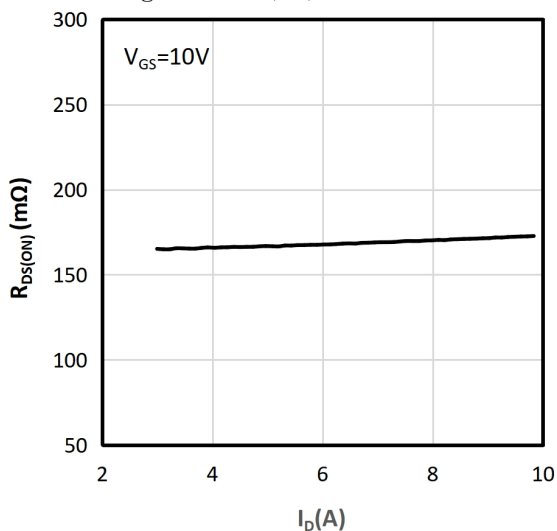


Fig 4: $R_{DS(on)}$ vs. Temperature

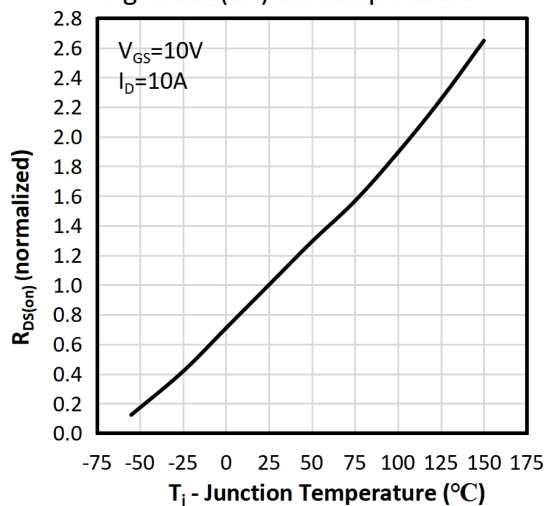


Fig 5: Breakdown Voltage vs. Temperature

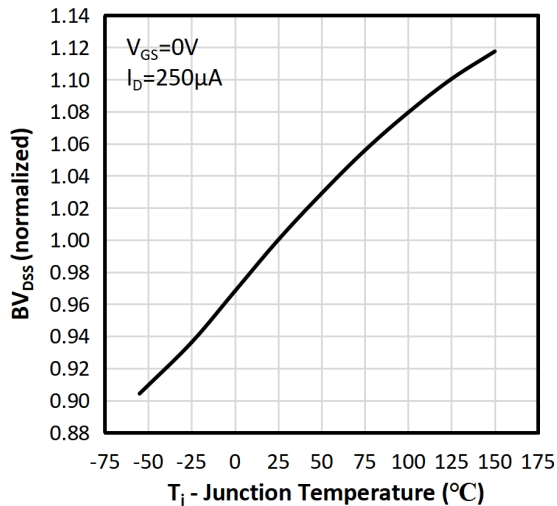
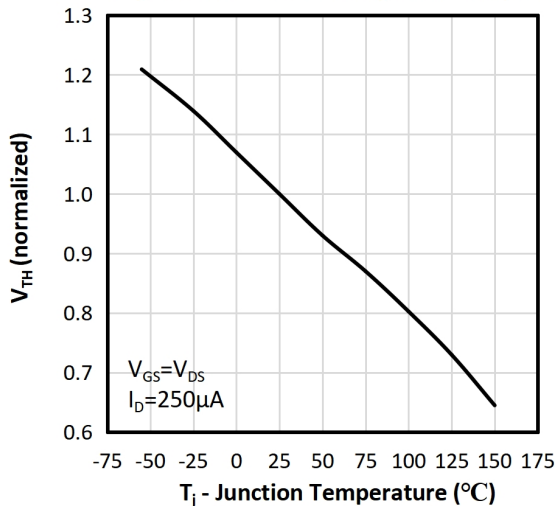
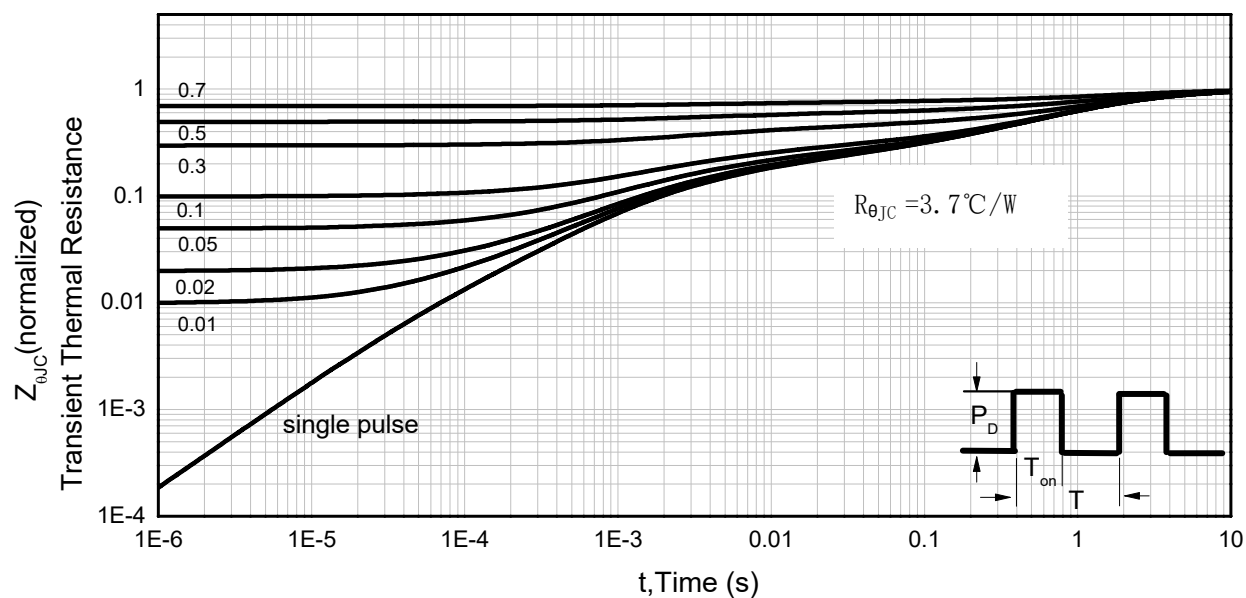


Fig 6: Threshold voltage vs. Temperature



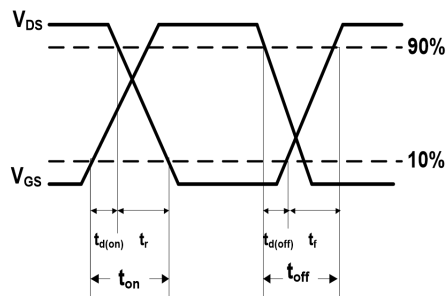
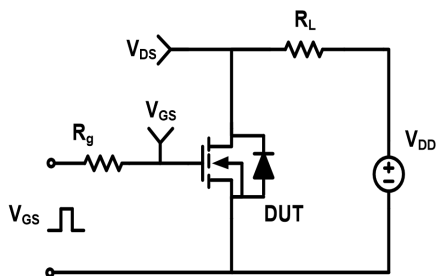
RATING AND CHARACTERISTIC CURVES

Fig 13. Normalized Maximum Transient Thermal Impedance (R_{thJC})

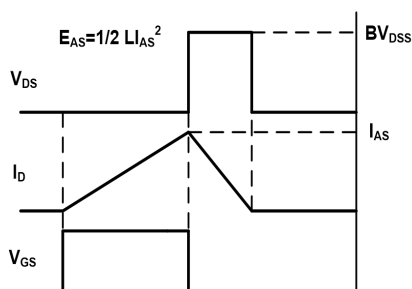
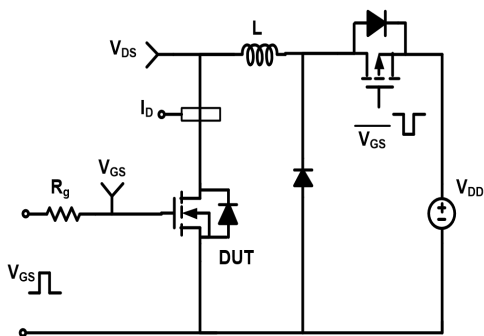


Test Circuit

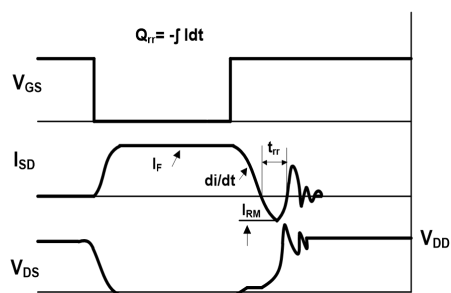
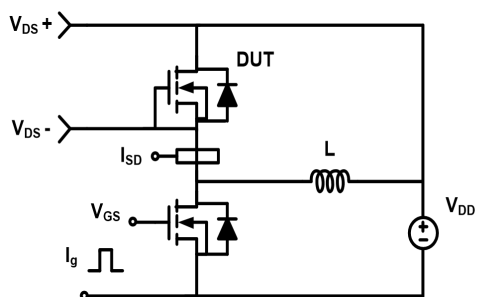
Resistive Switching Test Circuit & Waveform



Unclamped Inductive Switching (UIS) Test Circuit & Waveform

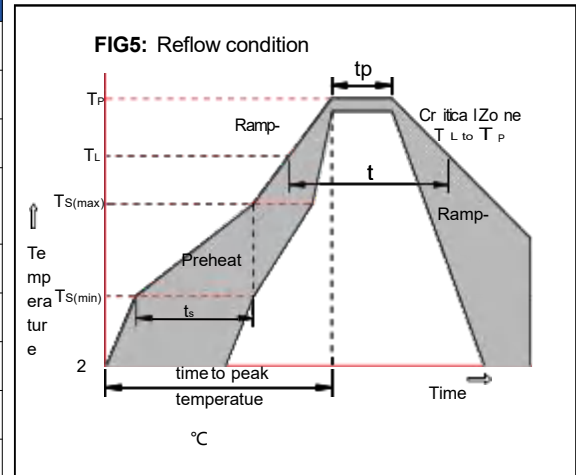


Diode Recovery Test Circuit & Waveform



Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



Package Dimensions & Suggested Pad Layout

